THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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For the Farmers' Cabinet.

Blight on Wheat.

Mr. Editor,—As there is a laudable inquiry as to the cause and nature of blight on small grains, and quite a variety of opinions, it will be difficult to form correct results, except by close observation of facts. I therefore state some relative to my own grain, that came under my observation the past season. And first, as to the nature and cultivation of the soil, as I think this ought always to be noticed, where results are expected to aid inquiries into the nature and cause of effects. My farm is mostly level, except some gentle undulations, where it declines towards Cedar Brook. The soil is generally a dark-brown loam, five to eight inches deep, resting on a tenacious sub-soil, one to three feet deep, easily penetrated by a spade, under which is a coarse, loose gravel. That part which declines towards the brook, may, therefore, be termed a gravelly loam. My winter wheat, and rye, were both badly injured by rust, or blight; but the facts I propose to notice relate to Siberian spring wheat, the kind I have heretofore found the least liable to blight. I had two small pieces, of about two and a half acres each; one was in an old orchard, the trees thinned out, descending towards the brook. The year before, it received about one hundred loads of muck, spread and ploughed under *deep*, and harrowed, and then about fifty loads of good barnyard manure, spread on the field, and also harrowed in. Part was planted with potatoes, the ground first furrowed, the seed dropped, and covered by two back furrows, in the form of a ridge. The other part was back furrowed, the ridges a little flatted with a rake, to clear off small stones, &c., then planted with ruta baga. The turnips were very good; the potatoes a fair crop. This piece was early ploughed last spring; well harrowed; the wheat brined and limed, and sowed about a bushel and a peck to the acre. The other piece was a deep loam; ploughed the year before nearly ten inches deep, and thoroughly harrowed; then about sixty loads of fine manure spread on the whole, and again well harrowed. About two acres were planted with Swedish turnips; the remainder a patch of corn and potatoes; all very fine. Last spring it was prepared like the other field, except that a part had slacked lime spread, at the rate of one hundred bushels per acre; harrowed and sowed in like manner. Both pieces came up well; looked promising until about the 1st of May, when I perceived the grain at a stand: on examining it, I found the larvæ of the fly were very thick. It however soon tillered, and by June appeared again promising. The latter part of June it began to head; and part indicated a large crop. July the 3d I examined it particularly; the most forward was in the milk; the straw bright and healthy, so far as I observed. The next day, about three o'clock P. M., we had a sudden heavy gust of wind, accompanied with lightning, rain, and some little *hail*. It cleared away before sunset; the Sabbath following was a delightful, clear day, and so was the succeeding day. On Monday, about ten o'clock A. M., I visited one of the fields, apprehending that some of the largest grain might be lodged; anticipating no other damage from the shower. But, to my astonishment, I found it covered with rust, or blight, rustling in the wind like dry leaves, and the straw appeared perfectly dead. I hastened to the other field, and, if possible, found it still worse. We cut it soon after, and shall not get more than a third of a crop of shrivelled grain. On close examination, I perceived not the least effect on the wheat, *where the lime was spread*, but the clover appeared more rank, as it was seeded down. I have, for a few years past, noticed with care the progress of insects, and blight, upon grain, but never before witnessed so sudden a transition from *health* to *death* in grain. I hope some of your scientific correspondents will express their views on the subject, and hereafter follow it up by close observation.

It is worthy of notice, that, at the same time, the outer edges, and many whole leaves, on all my young pear trees, were blighted,

turned black, mostly dropped off; and it was some weeks before they reanimated, but not a pear came to maturity.

Yours, respectfully,

David L. Dodge.

Cedar Brook, Plainfield, New Jersey, Dec. 26, 1840.

For the Farmers' Cabinet.

Fruit Trees.

The propagation and cultivation of fruit trees is a most pleasant and agreeable occupation for the sons and daughters of farmers; and those who have been educated in industrious habits, and those into whose minds sound moral principles have been instilled, are invariably fond of it. Every family who occupy a lot, or a farm, should annually devote a small portion of time and attention to this interesting and profitable department of rural occupation; for, we are all fond of good apples, pears, peaches, plums, quinces, and cherries, and all should lend their aid in their production; but never plant inferior kinds of fruit-trees: the same expense, time, care, and room are required as for the finest varieties, which are tenfold more valuable.

The roots of trees being designed not only to sustain them in a proper position, but to furnish them with nutriment, care should be taken, in planting, to loosen the earth for a considerable distance around them. Those who try how *small* a hole will accommodate the roots of a tree, miss their aim, for experiment has shown, that a tree planted in a hole three feet in diameter, will grow as much in five years, as one planted in a small hole will in ten; and the reason is obvious, for in the one case the fibres of the roots can extend and collect food without obstruction, while in the other the supply is very limited, or cut off.

Miller says, "the roots of trees are often buried too deep in the ground, which, in a cold or moist soil, is one of the greatest disadvantages that can attend fruit trees; for the sap in the branches, being by the warmth of the air put strongly into motion early in the spring, is exhausted in nourishing the blossoms, and a part of it is perspired through the wood branches, so that its strength is lost, before the warmth can reach the roots, to put them into an equal motion in search of fresh nourishment, to supply the expenses of the branches, for want of which the blossoms fall off and decay."

After the best kinds of trees have been procured, and skilfully and properly planted, great care should be taken to protect them from the depredations of cattle, and they should be staked, to keep them in an upright position, for there is no way in which the indolence and want of taste of a farmer is more prominently and permanently exhibited, than in the *inclined* position of his fruit trees. What think you, neighbour, of a man who has suffered a fine apple or pear tree to grow at an angle of forty-five degrees, when, if it had claimed attention at the proper time, five minutes' work would have given it perpendicularity, and preserved its beauty; and it would then have occupied much less space.

On every farm, a small space should be allotted for the purpose of raising stocks of the different kinds of fruit trees, so that buds or grafts could be inserted at the proper seasons of performing these operations, and in this way a perpetual succession of the finest trees would be obtained. The nursery for this purpose should be kept entirely free from weeds, otherwise all will be hopeless, for weeds have been proven, by several of my lazy acquaintance, to grow much faster than young fruit trees raised from the seed. The quince is among the most profitable of our fruits, always finding a ready market at a generous price, and yet there is but little attention given to its cultivation: it succeeds best in a moist soil, and will grow readily from slips inserted in the ground, early in the spring. The *young* trees produce the finest, fairest fruit; there should, therefore, be a succession kept up, as they do not do well at a greater age than ten or twelve years. It is hoped that the approaching spring will not be permitted to pass by without a large addition being made to the number of quince trees in our country. Those who are too remote from market to profit by the sale of them in a green state, will find their interest promoted by drying them, when they will sell for a higher price than the best dried peaches.

Those who plant young orchards would do well to consider maturely what description of cultivated crops would be most beneficial to the trees, and particularly to avoid such as are known to be injurious. What would be the effect of a luxuriant crop of wheat or rye, is well known. The trees are stunted and injured in their growth, or they are smothered and killed outright. Will a wise man sow a young orchard with rye? I say no, never.

Agricola.

"Nothing is more easy than to grow rich. It is only to trust nobody — to befriend none — to heap interest upon interest, cent upon cent — to destroy all the fine feelings of our nature, and be rendered mean, miserable and despised for some twenty or thirty years, and riches will come, as sure as disease, disappointment, misery and death."

To the Editor of the Farmers' Cabinet.

Portraits of Animals.

Sir,—I wish to call your attention to the portrait of a Cotswold buck, as drawn from the life, and given in the number of the Albany Cultivator for the last month. This animal has been imported by that spirited breeder and improver, W. H. Sotham, whose perseverance and industry in the cause are above all praise. But, is it really intended we should suppose that the sheep is there faithfully represented? Then he is a nondescript, and reminds one of the build of a road-wagon, as much as a sheep; for if the hind legs had been brought a little further forward, they would then have stood under the centre of the carcass, and have rendered the fore legs quite unnecessary; or, it might have been as easy to add a couple, to support the enormous rump! As he now stands, he appears, as some one says, "a creature packed up in two parcels!" And yet, Mr. Editor, the "portrait," as it is called, is nothing more nor less than what we were led to expect, from the importer's notes of preparation, first from the other side of the Atlantic, saying that he was coming, and, on landing, that he had come, and had brought with him the pride of all England! having, as it would seem, contrived to bribe the English breeders to dispose of their best stock for the consideration of a few extra dollars, reserving to themselves their "fair to middling" only, to breed from hereafter! Now, I must say, I have never found that our English friends were so much like some of ourselves — such penny-wise and pound-foolish folks — as to sell their best stock; and, judging by some that I have seen imported, I am not inclined to believe that they have so far forgotten themselves as to dispose of their *best*, even to friend Sotham, either for love or money.

While reading the importer's account of his magnificent purchase, in the late numbers of the Cultivator, I could not but think that he wrote with a large quill, and was reminded of the boy whose father had always counselled him to "talk large," and who, on being asked what fish he had dined upon, replied, "a whale." And I have heard of an honest Hibernian, who, on going to England to work at the hay harvest, and receiving thirty-five shillings for his labour, hurried back to Ireland, and, meeting a friend, on landing, who was just going for the same purpose, told him he might just stay where he was, for he had brought away all the money with him! Now it would really seem as if our Albany friends were determined to keep all the finest and fattest things to themselves, and swallow us and our lean kine at a gulp! Assuredly they do talk very large, and make wonderful animals upon paper; but *our* stock will grow in proportions in spite of us, and a very large body will fit itself with legs sufficient to support the weight which they are destined to carry; nor have we ever been able to obtain them with a natural piazza at the rump, all ours requiring artificial shelter in stormy weather. But let not our friend Sotham suppose, for a moment, that I wish to detract an iota from the praise that is due to him for introducing amongst us improved stock; he richly deserves all the credit and profit that he can possibly receive; but if he would draw with a more faithful pencil the delineations of his animals, and write with a *leetle* smaller pen, he would not be serving himself, or the cause which he has so nobly espoused, with less efficiency, truth, or fairness.

But I am bound to do him justice in one very essential particular—he has disenchanted the spell which has been thrown around the profession of hog-breeding in the eastern states, and worked the very mischief with the magicians themselves, with all their Tomfoolery about three white hairs and feet! He says, "colour, in Berkshires, is not hereditary; they vary in many instances, and I have seen the pure breed of all colours, amongst the best prize herds in England; to discard good animals for their colour only, are quibbles that seem to me profitless discussions, and too much like quackery to deserve notice." And, speaking of sheep, he says; "new things have often led farmers into errors; these breeds are so much mixed, that it is difficult to know from whence they have principally descended, *nor do I care*, so long as I approve of the sheep; my idea of name and colour of *any* cattle is, that it weighs but little in the scale of profit." Now this is refreshing to us, at this distance, and leads us to feel curious to learn how *the wise men of the east* will settle their differences on this momentous subject. But a friend at my elbow is so uncharitable as to suggest the possibility, that this liberality of the writer might not have been quite so conspicuous, but for the "black spot in the off side of Matchless," which, he informs us, is a Hereford cow, that won the first prize at the Royal Agricultural Society's meeting at Oxford, in 1819, against "all England," which spot, however, he says, was "unnoticed by judgment." So, then, we have lived to see the time when a comfortably sized black spot, on the off side of a pure-bred Hereford, is of no importance in the "eye of judgment!" Now, after this, a small spot on the nose of a bull, or the colour of it a little too yellow, or two white feet only, and a black tip to the tail of a hog, are defects which might be unnoticed by judgment! — they are as moats in the sunbeam, and, "Othello's occupation 's gone!"

We may therefore set to work, and breed good animals, without being compelled to go to Albany for chapter and verse, for it would seem, after all, that a good animal cannot be of a bad colour! Friend Sotham, we thank thee for our cure.

John Westlake.

Eastern Shore Maryland, Dec. 18, 1840.

Sheep.

Late in the summer of 1830, I borrowed one hundred dollars, and went into the neighbourhood and purchased sixty-eight sheep, at the average cost of one dollar and thirty cents per head, which left me on hand thirty-one dollars of my borrowed money, and at this time I had other twelve sheep, which made me a flock of eighty. The next winter I kept them on good hay, without grain, until the 1st day of March, after which I fed a little corn. The winter was extremely severe, yet I lost but one sheep, and that by casualty. I continued feeding a little corn until May, when I quit it altogether. That season I raised thirty-six lambs, which increased my flock to one hundred and ten, and I sold the wool, belonging to my old sheep, in June, for one hundred and fifty dollars. I then went and paid my note, and had forty-four dollars left of the money for which I sold my wool. The next winter I fed my sheep as before, but lost three by death: my wool, the next summer, sold for one hundred and five dollars, and the same season I raised forty-five lambs, and sold sixty of my old sheep for seventy-eight dollars and sixty cents, making the amount of sales from my flock, that season, one hundred and eighty-one dollars and sixty cents. In the winter of 1832-3, I lost six sheep by death, and sheared ninety-one in the summer; but, in consequence of the great proportion of lambs, the produce of wool was small; some of this was retained for home use; the remainder sold for eighty dollars. Thus has my flock, for three years, averaged ninety-four head — the sales from it amounting to four hundred and nineteen dollars. The last summer I raised thirty lambs, but sold no old sheep; so that in August, at the end of the three years, I had on hand one hundred and fourteen sheep — twenty-five above the average for three years — which sheep were worth fifty dollars. This sum, added to my sales, would make four hundred and sixty-nine dollars for the produce of ninety-four sheep for three years, or one hundred and fifty-six dollars, thirty-three cents, per annum — equal to one dollar and sixty-six cents per head: which gives a nett profit of sixty per cent for the three years together. — *Genesee Farmer.*

For the Farmers' Cabinet.

Make the Wind Work — Ho!

I have lately been gratified to learn that a friend of mine has applied a *windmill* to his barn pump, for the purpose of raising water for his stock. It is said to cost only a moderate sum, and to work well — so well that it is likely to come speedily into general use. The plan which he has adopted is said to be essentially the same as was proposed in the Farmers' Cabinet, Vol. 2, p. 162.

This means of working a pump seems particularly well adapted to the purpose of watering stock, and is equally applicable to the barn-yard and the pasture-field, whether the water is derived from a well or neighbouring stream.

The wind, however, is objectionable as a *pumper*, unless closely watched. Sometimes he wont work at all — sometimes he will work too fast. At one time he will lie still, in spite of all our promptings — at another time he will work furiously for a whole night, when we would wish him to sleep. He has so many *eccentricities*, that it is absolutely necessary to employ some management, and contrivance, before we can fairly depend upon his services. By the proper use of these *restrictions*, he may become a valuable farm labourer.

1. If he will pump too much water, so as to drain the well improperly, a *ball-cock*, and return-pipe may be fixed, so as to return the surplus water into the well.

2. If he will work all night, the pump may be thrown out of gear, so as to stop it.

3. If he will sometimes run too fast, a *regulator* may be so contrived as to equalize the motion. This may be done in several ways.

a By means of a friction-lock. This may be so fixed that the friction will increase with the strength of the wind.

b The wings may turn on pivots, and rest on springs, so as to yield to the increasing force of a gale, and thus lessen the surfaces exposed to the wind.

c The obliquity of the wings may be changed by the centrifugal force of weights, and counteracting springs. Or,

d The wings may be made to slide on the arms. This may be effected by means of weights sliding on the backs of the arms, and connected by cords with the opposite wings; the weights must be such, and so adjusted by springs, that as the velocity increases, the centrifugal force will carry them outwards, and draw their respective wings nearer the centre. I would be glad if some competent person would give us a complete description, and drawings of a wind pump on the best plan, its dimensions and mode of construction, so as to enable us to have them erected.

Aqua Fontana.

Chester County.

To the Editor of the Farmers' Cabinet.

Book Farming.

Sir,—A writer in your late numbers has given us an account of two very pleasant visits which he, as "One of the Old School," has paid to a young and interesting neighbour, "one who has left the noisy town for the quiet country"—no doubt for the best of reasons—and has worked thereout, it must be admitted, a very pretty moral for the application of the members of the establishment to which he belongs. I am much pleased with the humour and good feeling which are there displayed, but I too, Mr. Editor, am one of the old ones, and as I can enjoy a joke as well as most folks, I think it might be permitted me to record a little of my experience on "t'other side of the hedge," premising, however, that what I shall say will be the truth, and nothing but—indeed I am no hand at fabricating stories.

You must know, then, that I also have a young friend and neighbour who, having been unfortunate as a dry-goods merchant in Philadelphia, saved just money enough from the wreck of his property to stock a small farm in my immediate vicinity, where, if he is not earning his bread by the sweat of his brow, 't is strange to me. And although I shall not "extenuate" in what I am about to say, I am sure I have no wish to "set down aught in malice," for he is an excellent young man and a kind-hearted neighbour, and will do well enough by and by—but indeed he needs a little more tutoring; and, as experience keeps the best school, he is likely to obtain it—not, however, without paying for it; for "there is no royal road to Agriculture, any more than to Geometry," as has elsewhere been said—easy as it appears to those who turn to it as a last resource, or as a profession for the lame and the lazy.

My friend's farm is very much out of condition, having been sadly overworked by a late tenant, who was, unfortunately, *too good* a manager—his object being to get all for nothing; and finding it necessary to turn the tables, if he ever intended again to have a table to sit down to, preferred going to the west, and spreading one in the wilderness. The weeds therefore had taken possession, before my young friend, and it will be a task, I calculate, for him to dispossess these *pre-emptioners*, who bid defiance to him and all his works. I shall not forget the day, when he and his elegant young wife and sweet pigeons'-pair of children, first came and took possession of the "Eglantine Farm," as his partner chose to call it! It was a wretched day, very early in the spring, with the rain and sleet making a clear breach through the house by the broken windows and unhinged doors, and no preparation for himself, or provision for his cattle. I assure you it was anything *but* a picture of the "Farmer's life and duties," so beautifully set forth in the number of the Cabinet for December; indeed, my heart ached for them, and I called and told them so—which was, I can now see, a very indelicate thing, and is, no doubt, the cause of the coolness which has subsisted between us ever since, but my conscience tells me I meant no harm; I have therefore been compelled to look on in silence, and should have continued to do so, had not your "Old School" correspondent's pleasantly-written tales determined me to try my hand a little at the same thing.

Well, then, my neighbour's fields may all be known by the fine weeds which have taken possession; and, judging by their frowning aspect as they look on you from over the fences, they mean to keep it too. And lest it should be suspected that he was *non com.* in his new business, he was determined to employ no one who, by his superior knowledge, was likely to bring his capability into question; he therefore hired a couple of boys, and on he went, "the world all before him," and plenty of room "where to choose:" and as the time of corn planting arrived, I was amused to find him doubling the number of hills per acre—having discovered by the *rule of three*, that if 1200 hills would produce 45 bushels per acre, 2400 hills would, of course, yield 90 bushels, according to the mode of calculation practised in the counting-house; and this was so plain, that the only wonder with him was, that it had remained for him to enjoy the credit of having first made the discovery! And he was surprised too, on ploughing up his land, to find it quite clean—not a weed to be seen, for he had buried them all—and wondered how it could have been supposed that the farm was overgrown with them; he therefore calculated, that he should be exempt from future summer culture, "for where could weeds come from?"

As soon as the grass had started in the meadows, he made haste to purchase a lot of cattle to feed it, thinking that beef would answer his purpose better than butter, as his wife, he justly conceited, would make a mess of that: he therefore watched for the first drove which passed, and got the *owner* to select for him ten (full twice the number that he had food for) of those best suited to his purpose; cheerfully paying the price that he asked, as he could clearly see, they would be worth more than the cost price when they were fat, and, at all events, that must be a safe speculation. Now, it need not be added, that the owner of the cattle thought this a capital opportunity to get off his culls, and as he was a man who had been accustomed to

make hay while the sun shone, he was not slow in selecting such a lot "as was not to be found again in the country;" but my young neighbour had chosen one, which shamed the other nine, by his good looks, and the drover, knowing that this animal would bring all the rest into contempt, had the kindness to tell him, "as he had been so good a customer, he could not find it in his heart to leave that animal with him, as he *knew* he was affected with the murrain, which would, in all probability, spread amongst his other cattle and destroy the whole of them;" he was therefore kind enough to exchange him for one which was exactly a match for the other nine, all which he now assured him, "defied competition!"

My neighbour, while living in the city, had often purchased split peas for soup, and the thought struck him, that he might as well secure the difference in price, by sowing split peas at once, and thus gain a double advantage, wondering again, that this discovery had been reserved for him, and by which he could see very clearly, that he would soon grow rich; the thing was so palpable, that, fearing his neighbours might take advantage of his lucky thought, he sowed his crop by moonlight, and waited anxiously for the result, that he might secure the invention to himself by a patent right! but he found that the seed was *so bad* that not a grain of it ever came up; this was a sad disappointment, but it was a consolation, that no one knew of his discovery, and another year he would be sure to do better.

The former tenant had not taken the trouble to carry abroad his manure for the last three years, so, finding that others were sowing turnips on land which had been frequently ploughed and harrowed and cleaned, he thought he would forestall all this labour; and carrying the dung on to an old pasture, with one ploughing, sowed his turnip seed as thickly as he could scatter it—the turnips came up as thick as a mat, which gave him great pleasure; but, on showing them to an old farmer who lives across the country, he was mortified to hear him declare, they were ten thousand times too thick, which, of course, he set down as a notion of the "old school." The ancient neighbour, as he spoke, pulled up a handful of the plants, and after looking at them, threw them down; and I was highly amused to see my young friend, when I visited my farthest field in the evening, busily employed on his knees, carefully replacing the plants with a setting-stick, and patting the earth around them, that they may not suffer from the temporary "disarrangement!" he however, soon found that the weeds rendered thinning them quite impossible, and they grew into such a tower-of-Babel crop, that to rid himself of the trouble, he was fain to turn in his stock and eat up all, stock, block and belay. By this time his corn had given up contention with the weeds, and had submitted to its fate; and then he found that the hills were so close, that, to clear them with anything but the hand-hoe, was quite out of the question; while to attempt to do it by that means—he had rather be excused.

But I must stop for the present, and sincerely hope that by the next season, I shall have a very different story to tell. I am quite ready to admit, that such persons as our young neighbour coming amongst us will be of much service to the country; while, in return, I must be permitted to believe, that although we might be somewhat deficient in the *Rule of Three*, we are not quite so ignorant, as not to know that *two and two make four*.

Another of the Old School.

East Bradford.

For the Farmers' Cabinet.

"Mixing at the Root."

"Novitiate" returns his compliments to "J. D. E." for his respectful notice. (Vol. 5, p. 115.) He assures J. D. E. that he has observed the mixing of roots both in the common and sweet potato, too often to be a sceptic. The term *potato* was used in a *general* sense, and intended to embrace both the common and sweet kinds.

J. D. E. inquires "what says your very intelligent correspondent to this *new theory of plants mixing at the root?*" Novitiate (as his name implies) is not very intelligent, and he disclaims the character of being so—and this may be a sufficieut reason why J. D. E.'s "very easy and natural solution" does not appear so to him.

The roots of the potato do sometimes extend to great distances and may often come in *contact*—but why say *conflict?* They are insensitive—they possess no locomotive powers—they are entirely passive, as respects each other—there is no shuffling—no elbowing or shouldering—nothing like conflict that I can conceive of; hence it appears to be a gratuitous and somewhat "extravagant supposition that they might become chafed, and thus literally inoculate each other." If this were the fact, it would be one of every-day occurrence in the forest—the field—the garden. A universal inoculation and consequent mixture would take place, subversive of all distinctions between plants. This objection seems particularly strong against the inoculation of *fibrous roots*, which never increase beyond the original fibre.

Admit that *inoculation* does take place—will a *mixing* follow? I think not. In the

process of ingrafting there is inoculation—more—there is an entire substitution of the juices of the stock for those more congenial ones which nature had designed to nourish the scion—and what is the consequence? Does a mixture take place? I think not. It has been supposed that the *stock* does influence the fruit of the *scion*—and with reason—but does the fruit of the scion partake of the *specific qualities* of the stock? I think not. The digestive and assimilating organs of the scion appear to be capable of destroying those *specific qualities* and converting them to their own nature.

The choice varieties of roots and fruits, as well as of animals, have been obtained by culture from native productions of an inferior quality, and these possess a strong tendency to return to their original state, whenever the necessary care and culture are neglected. This tendency increases in a direct ratio to their improvement. Hence the universal complaint of degeneration, where only *ordinary* attention is bestowed in the cultivation of improved varieties. Now if any of the highly improved varieties of fruit are ingrafted into stocks of inferior quality, their nourishment will be of an uncongenial kind, and deterioration will probably take place. This seems to be a general principle; but it remains to be shown that there would be a particular assimilation to the peculiar qualities of the stock.

The foregoing suggestion is important to our horticulturists, and ought to be attended to. In the apple, for example, instead of the usual resort to a cider-mill, they should carefully select their seeds with a reference to the kinds of fruit which they intend to propagate. Stocks for the fine varieties of early fruit should be raised from seeds of early fruit, and of good quality — and *cæteris paribus*, of all the other kinds.

If the view which I have taken is correct, it follows that the assimilating powers of the plant would prevent potatoes from mixing, by inoculation. Hence it appears that the *new* theory is no better than the *old* one, and that they are both alike insufficient to afford a satisfactory *solution* of the problem. Before attempting to build any more *theories*, let us inquire whether the whole affair may not indeed be one of "Franklin's fishes."

I have often seen the "ring-streaked and speckled" potatoes, and therefore am no sceptic as to the fact. But before engaging in the inquiry how a *mixing in the root* is effected, I think it most prudent to consider whether it is effected at all — or whether the *apparent* mixing may not depend on the tendency in the plant to degenerate, or form new varieties? Whether it is essential to this change that two varieties should be planted together? — or whether the same result may not, and does not frequently occur where only one variety is planted? I am satisfied that this does often happen; and it may be found, on a careful investigation, that it is the only way in which plants *mix in the root*. This idea may, perhaps, be very repugnant to the preconceived notions of many of my readers; but it is by far the most consonant with what we know of the vegetable economy. How often do we hear agriculturists, who have not been over-careful in the choice of their seed (and very few are so), complain that their potatoes have become so mixed, white, red, and blue, that they are no longer fit to plant. I am aware that this is always accounted for on the *supposition* that different varieties have been accidentally planted, either together, or in contiguous rows. But this is very often supposition *only*, and a very doubtful one too. What says J. D. E. to this *solution without a theory*. I hope that he and G. W. Cooper will give the matter a full and fair examination, and make known the result for the benefit of a

NOVITIATE.

Stall-Feeding.

IN stall-feeding, the quantity of food given should be in proportion to the weight of the animal; an ox will eat a little less than one-fifth of his weight per day of cabbages, and about a third of his weight of common turnips, besides hay to counteract the superabundant moisture of the roots. About a sixth part of his weight, with the addition of dry food, is the proper allowance per day of potatoes or carrots. One pound of oil-cake and one of hay for every hundred pounds weight of the animal, is the usual allowance per day of this food; the quantity of the former being increased as the fatting progresses until it is one-half more than the first.

Every load of hay and sufficient litter given to beasts while fatting on roots and oil-cake, will make seven loads of dung, one load of which, if kept under shelter, is more efficacious than two of common barn manure. Mr. Moody littered forty-five oxen while fatting with twenty wagon-loads of wheat-stubble, mown after the crop had been carried, and the product of dung, when well fermented, was six hundred tons: another trial with thirty-six cows and four horses, while eating fifty tons of hay, and twenty acres of straw used as litter, made three hundred tons of rotten dung, in good order for the land. Every acre of stubble, after carrying the wheat crop, should be carefully mown, and taken to the cattle-yard, there to be stacked, for winter use.—*Selected.*

To the Editor of the Farmers' Cabinet.

The Dahlia.

Sir, — I find in the Magazine of Horticulture an article on the management of the Dahlia, which is deserving the notice of those who are interested in the cultivation of the most superb of all the flowers which adorn our gardens, at that season of the year when the beauty and bloom of the spring and summer varieties have passed away. It is there stated, that "the best general bloom is always to be found upon those roots which are planted on a moderately rich, sandy loam soil, in a cool situation, as in hot and dry seasons they do not suffer so much from drought, as those planted upon a gravelly or sandy bottom. Planting the roots on a proper soil, near the margin of a river, or other large body of water, seems best adapted to ensure a perfect blooming of this exquisitely-formed flower; the constant evaporation from the surface, in hot weather, producing a humidity in the atmosphere, much more congenial to the nature of the plant, than can be obtained by any artificial means." As an instance, mention is made of Thorburn's garden, which is situated on Long-Island, opposite Hurlgate, and within about twenty feet of the waters of the East River, where the Dahlia has not failed, for several years, to produce an abundant bloom; while in the interior, cultivators have, in many places, been unable to obtain a hundred flowers from as many roots: and from my own observation, the remark is just, for the best blooms which I witnessed the last season were in situations similar to that pointed out, on the Delaware, in a garden reaching to within a very few feet of the river, and on the banks of the Schuylkill, every plant being loaded with blossoms of the most perfect form and delicate varieties, of remarkable freshness and vigour; while on other plantations, more remote from water, where the plants had grown to an enormous size — more like trees than plants of annual growth — scarcely could be found a single well-formed flower, with numerous buds which never opened at all.

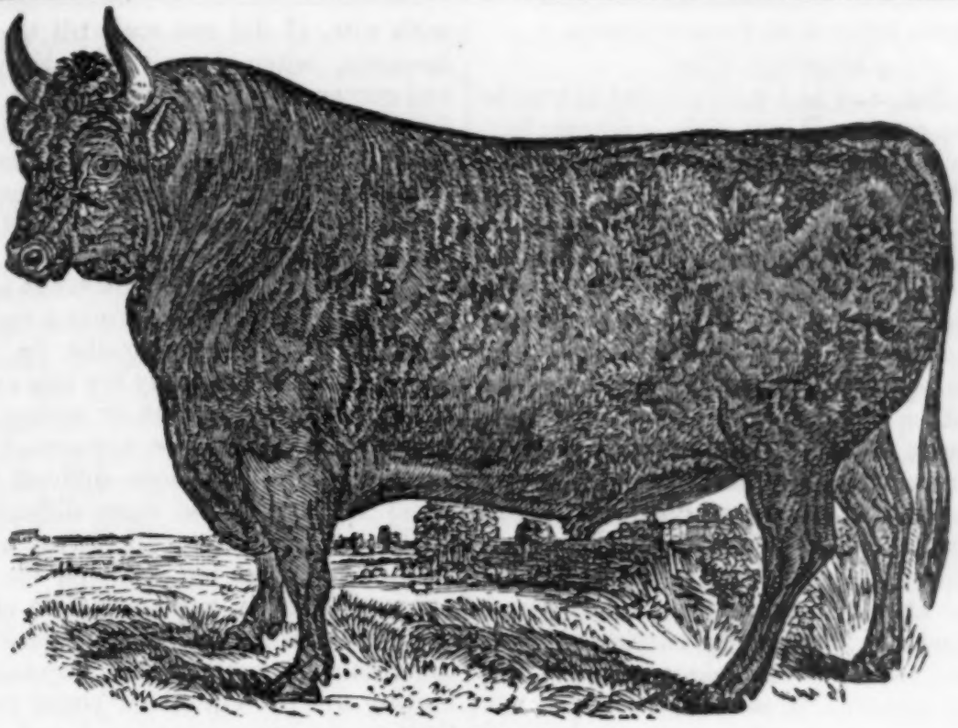
I have an idea that a great improvement in the cultivation of this most valuable addition to our autumnal flowering plants might be made, by placing each root in a large pot, instead of into the border of the garden: there would, I conceive, be many and great advantages resulting from this practice. And, first, the roots may be committed to the earth much earlier than would be safe, if they were planted into the border at once, as the pots could be kept under shelter — a piazza, for instance — until the plants had shot forth, and then be plunged into the borders, pots and all, to remain during the flowering season: this mode being as applicable to those plants struck in pots in the green-house, as they could be removed to large pots most conveniently. Second, At the approach of winter, the pots could be removed from the border to the piazza, or into the house, or other shelter, where they might continue their blooming, and bring many blossoms to perfection which would otherwise be cut off by the frost, or be prevented from opening at all, if exposed in the borders. Third, A proper soil might be prepared artificially, so as to suit the different sorts of flowers, it being found that the mottled varieties require a gravelly soil to bring forth their beauties; and others doing better in those soils that are tenacious: and in these pots the roots might remain during the winter, if found better adapted to their safety than taking them out; it is presumed, however, that in either case, it would be advisable to replace the earth with fresh mould at the time of planting the roots in the spring, and this could be prepared during the winter, by exposure to the atmosphere and agitation, the grand secret of preparing mould for the potting of plants of every description.

D. E.

On Weighing Cattle, while Fatting.

As the grazier is usually less skilled in judging of the weight of live cattle than the butcher, Lord Kaimes advises to sell them by weight while alive. The weighing of cattle periodically is also useful, in order to ascertain whether each beast fattens in proportion to the value of the food eaten, as it may often be best to dispose of such as do not forthwith. He says, the four quarters, when dressed, are about half the whole weight of the animal, while living, with its stomach moderately full; the skin being about the eighteenth part; the tallow about the twelfth; the remainder being composed of the head, feet, tripe, blood, &c., which offal never sells by weight, but in proportion to the weight of the animal. With a knowledge, therefore, of these particulars, and of the market price of the beef, tallow, skin, &c., the farmer or grazier can ascertain what his animals are worth while alive. By weighing fatted calves while living, and deducting eight pounds from every twenty, the remainder will prove about the weight of the four quarters when dressed. — *Selected.*

The industrious are seldom criminal, but the most of those who yield to guilty enticements may trace their lapse from rectitude to habits of idleness.



PORTER,

The property of Morris Longstreth, Esq., Valley-Green. — Calved May 20, 1838.

The above is an excellent portrait of the Devon bull, "Porter," which obtained the first premium at the late Philadelphia Agricultural Society's annual exhibition. Amongst those who recognized in this animal the distinguishing features of that favourite breed of British cattle, permission is given to name Professor Pattison, and William Peter, Esq., British consul; the latter gentleman declaring him to be the most perfect specimen of the Devons that he had seen in this country, and equal to any he had observed in the extensive herds of Mr. Coke of Norfolk, adding, "an animal like that, would not be permitted to leave England."

The character of the Devon cattle still stands pre-eminent in England, as a distinct breed. From them, it is said, the Herefords, Gloucester Reds, and Sussex cattle are derived; and although they have *given* much in the way of improving other breeds, no one has yet believed that they could *receive* aught in return. Who has ever heard of the *improved Devons?*

Lord Somerville, an excellent judge, and a native and resident of the county in which these cattle are bred, gives the following description of them — not as they might be in some imaginary animals, but as they are *really* found. He observes; "while speaking of this breed of cattle, conclusions must not be drawn from the shape and size of *all* the bulls, but from the general quality of the stock; for certain it is, that, individually, handsomer bulls are to be found in other breeds; but it is as certain that this race, of which the whole produce is brought to view (no calves being slaughtered), stands the confessed favourite, or amongst the *very first* in Smithfield, where prejudice cannot find the way. And in forming an estimate of merit or demerit, the *annual* produce is to be the object attended to; and this in oxen, which, for superiority of beef, activity in labour beyond all competition, and what, in horses is termed *blood*, will be found a true criterion to judge of the bulls which begat them. Generally speaking, the bulls are, relatively to oxen, not of large size; and, in respect of the head, they are sometimes reproached with being *throaty*, or with the skin too profuse and pendulous; the curled hair, too, giving an apparent coarseness to the head, not to be found in some other breeds, *when carefully trimmed with the scissors;* the neck, perhaps, thick and gory, in the estimation of strangers, but with which property the oxen of this breed are not to be reproached, or they could not labour as they do. The bosom is wide in form, and mellow in handling; the legs like straight pillars, to support a great burthen; the skin rising easily from the ribs, mellow, and elastic; the hind-quarters long, and well filled; the setting on of the tail high, long, small, and with a round bunch of hair at the end. Those with curled hair are deemed excellent provers; and a glossy, mahogany skin, with curls like the ripples formed by the wind on a mill-pond, is in the highest esteem: it is very rarely that one is found with a hard, or wiry skin. They are grazed fat in six or eight months, to the average weight of forty-five score. As a distinct breed, their claim to antiquity, purity of blood, high form, and extensive utility, has never been disputed; and, for a century past, they have commanded the best price in Smithfield market."

To the Editor of the Farmers' Cabinet.

Hessian Fly.

Dear Sir, — I had not intended to trouble you again on the subject of fly in wheat; but, from the tenor of the article on "Blight," by Vir, in the December number of the Cabinet, I think it necessary to say a few words in reply. I did not understand "Vir" as saying that the course which he recommends, as a preventive of the fly in wheat, was *new in Europe*; I meant that it is *new in this country*. He says, in his last communication, "in Europe it is not the custom to complain of the fly, as it is here; and they believe they are right in attributing their security to the system of sowing wheat on a clean and unexhausted soil." Now if I am rightly informed, the Hessian fly, as we term it, is not known in Europe at all, or at least, not in England or Scotland; neither is the curculio known in Europe, which is the sole *cause*, and not the *effect*, in these United States, of thousands of bushels of plums, peaches, pears, apples, and other fruit being full of worms, and dropping to the ground, annually, before maturity.

Although the Hessians have the honour of first introducing the fly to this country, yet, as we have no accounts of its being found in that part of Europe, they must either have brought it from some other country, or be innocent of the charge. Vir considers all this of minor importance, however, when compared with the *theory that the fly is the effect, and not the cause*, and which, he says, Tycho attempts to ridicule, by asking if he does not consider bots in horses, and worms in children, exceptions to the principle that the fly is the *effect*, and not the *cause* of diseased wheat. I likewise stated, in my former communication, that, on this principle, we might explain all manner of diseases, incident both to the animal and vegetable kingdom. As this was a *new theory* of disease, to me, I naturally felt somewhat incredulous. But whether corn is diseased *previous* to the ravages of the cut-worm, or the peach-worm, or borer, is the *effect* of disease in that tree, Vir doth not say. My belief is, that in both these cases, as well as the fly in wheat, the insect tribe are the *cause*, and not the *effect* of the disease, and ultimate death of the plant. That my opinions on this subject have not altogether been imbibed from books, I am willing to admit; personal experience, and close examination, have had a considerable share in drawing my mind to this conclusion.

Vir asks, "if I have ever witnessed those flights of countless millions of flies, as there must be about the time of harvest?" I answer, No; but very different have been my experiments, in regard to hatching the eggs, or nits. I have repeatedly taken up plants of wheat with nits, (I did not wait till harvest-time, however, when in all probability the fly had emerged, leaving nothing but the shell, for your correspondent to experiment upon; in that case the eggs may remain *in statu quo* for ever) and, by placing damp earth in the bottom of a phial, and on this the wheat-plant containing the eggs — tying a bladder over the top, pricked full of holes with a pin, and placing the phial in a warm room, I have never failed in hatching the fly, in a few days; and Vir can easily try this experiment at any time, fall, winter, or spring. It is an easy matter to become acquainted with the parent insect, but more difficult to understand its habits, and more difficult still to apply a preventive. I have no Scotch neighbour to set me right on the *wonder* I express, whether "the principle of keeping the plant small, to harden it, would apply to the animal as well as the vegetable, by retarding the growth of our young cattle, that they might become hardened, and capable of enduring our winters with less protection, &c.; but as our cattle are not destined to stand the exposure of Scottish hills, or Pennsylvania hills either, during the winter, I shall make no further comments on this head, but pass on to the next paragraph, which I think it necessary to quote entire. Vir says, "How stands the case? we find the complaint of the ravages of the fly to be in many parts of the country — universal — and those who are suffering are inquiring if any one can inform them the cause of the malady, or point out a remedy; and your correspondent himself admits the extent of the evil: as soon, however, as a remedy is proposed, one that has been found effectual *elsewhere*, he is the first to cry out against it, and do all in his power to bring it into derision. Why, man, it is you who complain. Why say a word about it; why not follow up your old course, and be silent?"

Does your correspondent suppose that any *new course* he may recommend must of necessity meet the approbation of all who are suffering from the evil complained of? Or, does he suppose that my observations on his article were for the sole purpose of opposition? If so, I can assure him, he is mistaken. When a remedy, however, is proposed for an evil, that has been found *effectual elsewhere*, as he says, but where that evil *does not exist*, we may, at least, be allowed to doubt its preventive powers where that evil *does exist*. If his remedy will not bear scrutiny on paper, agriculturists will, I fear, be slow to put it in practice. It was for the purpose of inquiry, on concurrent testimony of the efficiency of the plan, that I replied to the article on the Fly, in the August number of the Cabinet. If the course which he recom-

mends has been in practice by others, in *this country*, and found to be proof against the evil, while others, in the immediate vicinity, and who sowed their seed at the same time, but managed their ground differently, say after oats, failed, then, and not till then, would I be willing to follow his directions. Your correspondent admits that he has never even seen the fly. Now, then, I would ask, is it likely that he is capable of informing others of the *cause* of the malady, or point out a remedy? He says; "why, man, it is you who complain — why say a word about it? &c." Is it not natural for those who suffer to complain? and this is the very reason that I *do not* remain silent. If I did not suffer, I should have no cause to complain; but when I suffer, and find others complaining of the same evil all over the country, I naturally grasp at any thing that has even the *name* of a remedy. Before I apply that remedy, however, I desire better proofs of its efficacy than the mere say-so of an anonymous correspondent — and even his authority is brought from Europe, where the fly does not exist! Although I have not seeded wheat on clover-lay myself, I have seen many of my neighbours do so, and I have very seldom seen good crops on such ground: it is equally subject to the fly, and I have seen more than one such field ruined by their depredations. Vir is right, when he says "the plant remains small during the autumn, on clover-lay" (and by that means the weeds very often get the advantage), but he is not right when he says "it is not so subject to be winter-killed." I have frequently noticed that the spring frosts are much more severe on wheat on a clover-lay, or on fallow ground, than on wheat sown in oat-stubble; and the fact, to me, is self-evident. The clover-lay, or fallow ground, having nothing on the surface but the wheat-plant (unless there are plenty of weeds), to cover the ground, and this being small, there are many vacancies for the frost to enter, and raise the plant, notwithstanding two bushels of seed should be sown on the acre; while on oat-stubble, in addition to the wheat-plant, the ground is literally covered and protected with stubbles and dung, thereby preventing the frost from entering the ground, and raising the plants to the extent it does in clover-lay.

I agree with your correspondent, that the unpropitious state of the season is the *main cause* of the failure of the wheat crops; or, in other words, that the seasons have been *unfavourable*, of late, to the wheat, but *favourable* to the fly. When the wheat-plant is once injured at the root, which is always the case when attacked by fly, rust and mildew will follow, as naturally as darkness follows the light.

In regard to the plan as recommended, of hauling dung, in the spring, on the young clover, or on the ground intended for mowing, I do not approve of it, as our mowers prefer to have a smooth surface to work upon, while, on the contrary, when the ground is manured in the spring, particularly with the coarse litter of the previous winter, the straw and dung remain on the surface undecomposed; and is a continual obstruction and inconvenience to the scythe, the rake, and all the operations of haymaking. Vir says, "when *he* manures his young clover in the spring, he will no longer complain that the second crop of clover-hay is worthless, as food for stock." By this sentence I understand him as intending to convey the idea, that the application of manure in the spring *improves the quality* of the second crop of clover-hay, making it more palatable, as food for stock. That it will improve the *quantity*, I admit, but the quality of the second crop would be still more gross and unpalatable to the cattle in general. The second crop of clover causes the slabbering of horses; and I have seen milk-cows so affected, that the water, or saliva, was standing in their troughs; and I again assert, that no stock, of any kind, will eat it, if good wheat, oat, or barley-straw is placed within their reach: to this assertion, I believe the majority of practical farmers will assent. But, with our large Pennsylvania barns, we are enabled to give our cattle better protection, and better fare, too, than to feed them on second crop clover-hay, and expose them to the bleak hills, as your correspondent says they do in Scotland, during the winter. As to the "stalk of clover four feet three inches high, which has stood erect, with its under leaves and blossoms quite perfect, not having rotted before coming into bloom," it may have been a pet plant, tied to a stake, as I, some years ago, raised a stalk of clover nine feet some inches high, and not in bloom when killed by frost. To explain, however, mine was from South America, the *trefolium giganticum*. It may be that the red clover, in some instances, may be encouraged, by dunging, to attain that height.

When I commenced writing, I intended that my reply should be brief; but, before the subject is exhausted, I find my paper is full. As the subject is of vital importance, not only to farmers, but to the whole of the American people, I hope others, more capable than myself, will give us their knowledge and experience through the pages of the Cabinet, and agitate the question until the cause of the evil is more generally understood and some remedy brought to light, as a preventive of the fly: and with this hope,

I remain, very respectfully, yours, &c.,

TYCHO BRAHE.

Lancaster, Pennsylvania, Dec. 26, 1840.

For the Farmers' Cabinet.

Tenants on Shares.

Mr. Editor, — In the Farmers' Register for December, I find some excellent and pertinent remarks upon the systems of agriculture, or rather the want of such, in the time of the publication of a series of "Essays by Arator" (John Taylor of Virginia), so long ago as the year 1809, or 1810, which are, unfortunately, about as much in season, at the present day, as then, and pointing directly at the root of the evil complained of; an evil, however, which appears to be incurable — interwoven with the existence of the country — a love of change, and an impatience of control being peculiarly characteristic of a nation indebted for its liberty, and freedom from vassalage, to a restless spirit of enterprise, manifest to every foreigner on first stepping foot amongst us, and an anxious speculation, which pervades all ranks, unfitting men for sitting down on the same spot for "twenty-one years," coolly to study the improvement of a soil in which he has only the right of tenantry, after all. It would seem, that to men who contemplate a removal to the west "year after next," there can be but one rule of action, namely, to get all they can from the soil, and return to it as little as possible, in the shape of expense and labour — a principle this, sufficient to account, at once, for all the sterility and bad management which we witness, particularly in the southern states, where the chief staples of produce yield nothing in return, as food for cattle, or the renovation of the soil.

The essay from which the following extracts are copied, is headed "*Overseers*," but the observations apply, exactly, to that class of men who take land on *shares* — a numerous class, who enter upon their duties confessedly as men of no capital, and whose only object is to create one by screwing it out of the soil, in which they have oftentimes a yearly interest only, that they might be enabled to "take land of their own;" the owners of the land becoming partners in the iniquitous and suicidal connexion, and receiving one half the proceeds that have been wrung from the poverty-stricken soil! — the tenant, in the mean while, being valued in proportion to the magnitude of the extortion practised.

A Constant Reader.

"So far from having a system of agriculture among us, very few have ever taken the trouble to discover or provide one for us. Had Archimedes proposed to move the earth without any thing for him or his mechanism to stand upon, or an architect to erect a city without a foundation, such projects would have been equivalent to ours for erecting a system of agriculture upon the basis of the improvement of the soil. Of what avail can any rotation of crops—the best contrived implements of husbandry, or the most perfect use of those implements be, when applied to a barren soil? Could a physician correctly call the regular administration of a slow poison a system of medicine, because he used the best-constructed lancets, caudle-cups, and syringes, in killing his patient? It is absurd to talk of a system of agriculture, without having discovered that every such system, good for any thing, must be bottomed on fertility; before, therefore, we launch into any *system*, we must learn how to enrich our lands. The soil of the United States, upon the Atlantic Ocean, is naturally thin, and exceedingly impoverished; it produces, however, good crops, when made rich, almost under any species of cultivation: to make it rich, therefore, ought to be the first object of our efforts, as, without effecting this, all other agricultural objects, beneficial to ourselves or our country, must fail. Instead of this, for one acre enriched, at least twenty are impoverished.

The disposition of our soil and climate to reward husbandry bountifully, is disclosed in the great returns bestowed upon bad culture, by the very moderate degree of natural fertility possessed by the former (the soil). The climate is beyond our power, but the productiveness of the soil, without the help of art, is an encouragement for us to recollect how impiously we have neglected the cultivation of a deity so propitious: but this deity has a rival demon, called ignorance, for whose worship the slave states have erected an established church, with a ministry, entitled *overseers*, who are fed, clothed and paid to suppress every effort for introducing the worship of its divine adversary. This necessary class of men are bribed by agriculturists not to *improve*, but to *impoverish* their land, by giving them a share of the crop for one year; an ingenious contrivance for placing the lands in these states under an annual rack-rent, and a removing tenant. The farm, from several gradations to an unlimited extent, is surrendered to the transient overseer, whose salary is increased in proportion as he can impoverish the land. The greatest annual crop, and not the most judicious culture, advances his interest and establishes his character; and the fees of these land-doctors are much higher for killing than for curing! It is customary for an industrious overseer, after a few years, to quit a farm on account of its barrenness, occasioned by his own industry; and frequent changes of these itinerant managers of agriculture, each striving to extract the remnant of fertility left by his predeces-

sor, combine, with our agricultural ignorance, to form the completest system of impoverishment, of which any other country can boast. But I mean not to speak disrespectfully of overseers; they are as good as other people; nor is it their fault if their employers have made their wealth and subsistence to depend upon the impoverishment of half a continent. The most which the land can yield, with seldom or never improvement with a view to future profit, is a point of common consent and mutual need between the agriculturist and his overseer; and they generally unite in emptying the cup of fertility to the dregs!

It is discovered, in England, from experience, that short leases are the worst enemies to agriculture — those even of twenty-one years being still found, by experience, too short for improvement. Must the practice of hiring a man for one year, by a share of the crop, to lay out all his skill and industry in *killing land*, and as little as possible in improving it, suggested by the circumstances and necessities of settling a wilderness among hostile savages, be kept up to commemorate the pious learning of man in his primitive state of ignorance and barbarity? Unless this custom is abolished, the attempt to fertilize our lands is useless. Under the frequent emigrations of owners from state to state, it cannot be accomplished; impoverishment will succeed, distress will follow, and famine will close the scene! It is a custom which injures both employers and overseers, by gradually diminishing the income of the one, and, of course, the wages of the other; while wages in money would, on the contrary, correspond with the system of gradual improvement, by which the condition of both parties would be annually bettered; and skill in improving — not a murderous industry in destroying land — would soon become a recommendation to business, and a thermometer of compensation."

ARATOR.

For the Farmers' Cabinet.

Necessaries the Best Product.

MR. EDITOR, — I have been much pleased and instructed by an excellent paper in the Cabinet for the last month, entitled "Necessaries the best Product of Land," particularly with the axiom contained in the note at the foot of the 149th page, viz., "That crop which gives the most food for man, and provender for beast, ought to have the preference:" it is added, "silk and wine give neither the one or the other, and, what is worse, no manure." Now to these luxurious crops may also be added tobacco, which is proverbially an exhausting crop, yielding nothing with which to replenish the soil in any way; at the same time the expenses of cultivation are rarely balanced, even by a large yield.

In perusing the last number of the "Farmers' Register," which contains the essays of "Arator," a writer of great talent and observation, first published in the year 1809, I find, at page 755 of that highly interesting journal, a chapter on the culture of tobacco, which deserves, I think, a place in your forthcoming number, as a suitable companion to "Necessaries the best Product," and, being written, as it was, by a resident of that tobacco-growing state, Virginia, and one who had been engaged in the culture of the plant, and had carefully calculated its cost, the account may be relied upon. I. W.

January 5, 1841.

"The extent of country yet devoted to the cultivation of this plant, entitles it to a place in an agricultural work, whose object it is to kill bad habits, and to be *killed itself*, in turn, by a complete system of cultivation. The preservableness of tobacco endows it with the rare capacity of waiting for a market; and this circumstance constituted a recommendation which induced me to cultivate it, attentively, two years; and although both crops succeeded beyond the medium calculation, still the experiments exhibited results, conclusively proving the propriety of its abandonment; and these results were all with ease reduced to figures, for it was easy to fix the value of labour bestowed on an acre of tobacco, and on its crop after severance, and on an acre of corn or wheat with the preparation of its crop also for market; it was as easy to ascertain the produce of equal soils, and prices were settled by sales. Such estimates demonstrated the loss of growing tobacco, merely on the score of annual profit, without taking into account the formidable obstacle it constitutes to the improvement of land: and this objection is not founded upon the erroneous opinion that it is peculiarly an impoverisher; on the contrary, my impression was, that it was less so than any other crop I knew of, except cotton and the sweet potatoe, but upon its enormous consumption of labour, *and its diminutive returns of manure.* It would startle even an old planter to see an exact account of the labour devoured by an acre of tobacco, and the preparation of the crop for market; and even supposing that crop to amount to the extraordinary quantity of one thousand pounds, he would find it seldom, if ever, producing a profit, upon a fair calculation; he would be astonished to discover how often he had passed over the land, and the tobacco through his hands; in following, hilling, cutting off hills, planting, replanting, toppings, suckerings, weedings, cuttings, picking up, removing out of the ground

by hand, hanging, striking, stripping, stemming and prizing; and that the same labour devoted to almost any other employment, would have produced a better return, by ordinary success, than tobacco does by the extravagant crop I have supposed. And although its profit is small, or nothing, yet its quality of starving every thing exceeds that of every other crop; for it starves the earth, by producing but little litter, and it starves its cultivators by producing nothing to eat; and whatever splendour or plenty it may bestow on its owner, the soil it feeds on must necessarily become cadaverous, and its cultivators squalid; nor can it possibly diffuse over the face of the earth, or the *faces* of its inhabitants, the exuberance which flows from fertilization, nor the happiness which flows from plenty. Now, a substitute is the object of inquiry, after we are convinced of the detrimental nature of any crop. When flour sells for as much as tobacco, by the pound, wheat would be a complete one, at any distance from water-carriage; but as that is seldom the case, others must be sought after; and the extent and population of the country, within reach of navigable water, opens to the tobacco districts a wide market for the disposal of many better substitutes. Horses, mules, beef, and pork, would more than suffice to replace all the advantages lost by relinquishing the culture of tobacco; and materials for manufacturing, with manufacturing itself, would amply provide for any possible deficiency. The market for live stock and meat, is so great and valuable, in the bread-stuff districts of the eastern waters, as to attract supplies from quarters far beyond the narrow tobacco-belt with which they are immediately surrounded; and if it is a question in the best cultivated countries, whether grazing and breeding live stock, even upon the margin of navigation, is not the most profitable agricultural employment, every doubt vanishes, in comparing it with the cultivation of tobacco in situations where the capacity of walking to market will create a considerable item of that comparison.

The system of agriculture for a bread-stuff farm, according to the experience I have had, requires live stock sufficient to consume and reduce to manure every species of provender and litter; in effecting which, a sufficient quantity of meat may be provided for the labourers, either without expense, or even producing profit; but, if I am right in concluding that the live stock of such a farm ought to stop at that point whenever its situation renders the expense of transporting its grain to market trivial, it follows that a vast market would remain for the meat and live stock of the tobacco district, consisting of towns, artizans, all who live by professions, and the interest of money; and of the bread-stuff farmers themselves, as to horses and mules, the breeding of which is excluded by this system, and as to pork also, whereon a better mode of raising it than the present shall not be adopted.

"Having had no experience of a farm devoted to the raising of live stock, my observations are merely conjectural; but, it seems to me, that manuring might be carried much farther where the whole produce was consumed on the land, than when a part of it was exported; that the product might be therefore more rapidly increased, and the space cultivated *diminished;* and that the herbaceous and succulent crops would so far banish the use of those now exhausting crops, as greatly to accelerate the improvement of the exhausted tobacco district, and to insure an immediate, or very quick return of profit, exclusively of a return of comfort, far exceeding that to which it has been accustomed."

To the Editor of the Farmers' Cabinet.

On Breeding Back.

Sir,—Conversing lately with two very intelligent friends and practical agriculturists on the tendency of all animals to "breed back," instancing particularly the case of that noble animal "Blossom," the property of Mr. Canby, whose portrait is to be found at p. 97 of the Cabinet for the present year, and who is evidently breeding back with white calves to Comet, who was white, I was struck with the instances they related as having happened within their knowledge, and which carry back that tendency to a date far more remote than what I had contemplated as probable, or even possible.

The first said, "When I was a lad at my father's house, we had, amongst our poultry, a small rooster of the bantam, or feather-legged breed, with the feathers extending outside his legs like two small wings; he was kept until it was suspected that the breed of the other fowls might be injured by his cross, when he was killed; but, from that day to this, not a year passes without a feather-legged chicken amongst the poultry!" The other said, "I once kept the variety of fowls called Rumps; that is, fowls naturally without tails; but, at length, determining to get rid of them, they were all killed right away: this was seventeen years ago, and during that time I have never had one of that sort upon my farm, but this year there has come a rump fowl amongst the chickens!" And it is in this way, I presume, that the very frequent admixture of black, or spotted-faced sheep, are to be found in flocks where there have never been either ewe or buck of that variety used for breeding for an age; but it must have

been observed by every one, at all conversant with the rearing of sheep, that these *mongrels*, which have black, or dark-coloured spots, are always the best sheep in the flock. And I know at this time, a remarkably fine pen of spring pigs, a cross between the Chester county and Berkshire black and white, each of which has the requisite number of white feet, &c., according to Albany statute; but two amongst them, and by far the best pigs, have a tinge of red mixed with the white, a proof that they are "breeding back" to their old Berkshire blood. To this cause may also be attributed, I have no doubt, the varieties we so often find in corn, which, although selected with the greatest care, and planted far away from every other variety, will still be found to "sport" in a most surprising manner. P. W.

For the Farmers' Cabinet.

Cultivating Orchards.

Considerable difference of opinion exists among farmers respecting the best method of cultivating orchards; but the practice may be divided into the following three methods; 1st, leaving them unploughed, but pasturing them more or less, either with all kinds of stock, or with hogs only; 2d, ploughing every year, and raising crops of annual grain, or pasturing them in the green state; or, 3d, subjecting them to the usual rotation of crops, in all respects as other uplands. I propose to give my views briefly, of the advantages and disadvantages resulting from each of these modes, as applicable to orchards in clay soils, from which my experience has been principally derived: in such soils the roots of the trees generally extend farther around the stem than the branches do, and are found nearer or farther from the surface, as the plough has been more or less frequently used, but, generally, the larger roots are in the subsoil, below the depth to which the plough penetrates. In the first, or non-ploughing mode, we find the ground covered with fibrous-rooted perennial, or annual grasses, the roots of which require, for their *full* support, all the rain that falls and can be retained a sufficient time in the soils in common seasons; but the roots of the tree also require, for luxuriant, or *full* growth, probably the whole of the rain that falls, and that can be rendered available; and being lower in the ground, and thus deprived of a portion of the moisture by the grass, they are obliged to send out small roots toward the surface to contend with the grass-roots for the moisture in the soil proper; thus there are two sets of roots in the upper soil, each requiring, in dry seasons, all the available moisture present; the consequence is, that the fruit, not having sufficient nourishment, grows slowly, and much of it drops prematurely, neither acquiring the proper size nor sufficient ripeness; and the grass (if of the fibrous-rooted perennials) not seeding, on account of being closely pastured, extends itself by its creeping roots, and, through its necessities, multiplies them indefinitely, making little growth above ground, and that suitable for pasturage only.

In the second mode, that of ploughing every year, and raising and ripening annual crops of grain, it must be obvious, that for a part of the time we escape the disadvantages of the first method, the crop sown not requiring the whole moisture and strength of the ground, until considerable growth has been made, during which time the moisture will have full, free, and easy access to the roots of the trees, the soil, or surface, being loose from recent ploughing — but after the crop sown has attained half its growth, and from that time till it is entirely ripened, the struggle will be in some measure as before, but, I think, generally more favourable for the fruit; nay, I believe that both the grain and the fruit will suffer less, and that neither will be so imperfectly supported as in the first method; for owing to the loose and open state of the ground, the moisture will penetrate deeper to the roots of the trees, passing first through the soil in which the roots of the grain are foraging; and much more will be absorbed by the ground, and less will run off, in heavy rains, than when the ground is covered by a close-cropped, short covering of grass; in addition to which we are entitled to presume that grounds annually cropped will require and receive frequent manuring. — Of these methods, when no crop is taken but the fruit, I shall take notice hereafter.

The other, and most common method, that of subjecting orchards to the usual rotation of crops, seems to combine the disadvantages of both the preceding methods, and to preclude the possibility of the tree accommodating itself to its circumstances, which, in ordinary cases, it does in some degree — for, commencing with that point in the round when the sward is broken up for Indian-corn, we have two years in which the ground is frequently ploughed, and, of course, all the tree-roots within the range of the plough are cut off, and a crop of Indian-corn and a crop of oats are grown and taken off, and a crop of wheat sown; during this time every thing is similar to that of the second mode, above stated; here the labours of the plough are intermitted for a period, generally of from three to five, or more years; clover, timothy, herd, or other grass-seeds are sown, and the whole is laid down for mowing or pasturage; and when a firm and close sod is formed upon

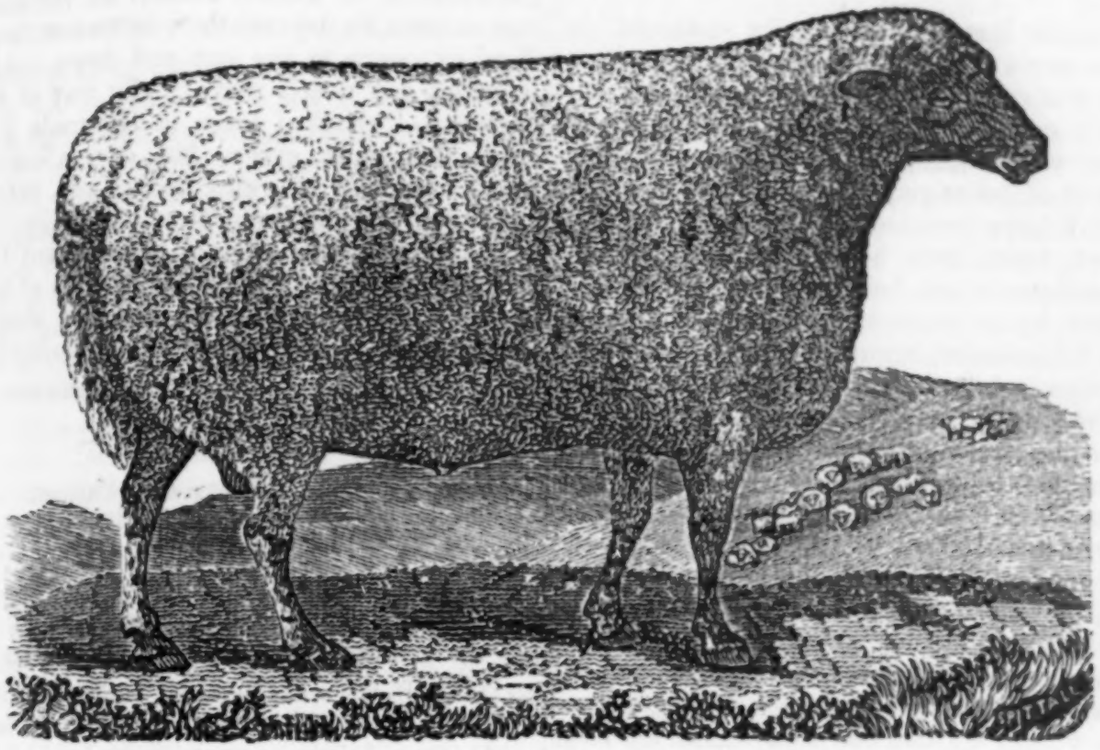
the surface, the tree-roots become stinted in their supply of moisture, and in obedience to that law that produces action in vegetables, enabling them, in some degree, to repair injuries, fibres are thrown out from the roots of the tree upwards, to seek support in the soil proper, from which they had been cut off by the plough; thus, for a time, the energy and power of the tree is employed, not in producing fruit, but in struggling for existence; one or more years are thus spent, and a state is attained similar to that described in the first mode, contending with the grasses on the surface, but not molested by the cultivator; but in two or more years, when the tree has in some measure accommodated its growth to its circumstances, and has acquired the power of sustaining itself by roots, or rootlets, in the soil proper, the plough is again introduced, and those supporting roots, one and all, are cut away, and the tree is again thrown upon its reserved rights, to find support in the subsoil by means of roots and absorbents, that have been unaccustomed to vigorous action for years. So violent are the shocks thus given, that trees treated in this way generally perish before they arrive at half the age or size to which they would attain under a judicious course of management; and the fruit that is produced is less in quantity, and inferior in quality, to what it would otherwise be, owing to the circumstance that the powers of the tree that are ordinarily exerted in its growth, and the perfection of the fruit, are diverted from these natural purposes to the repairing of injuries that it has received.

Among the many provisions which Divine Wisdom has made for the continuation of vegetable (and, I believe, animal) species, there is one that is, in some measure, connected with this question. It has been observed that vegetables that have suffered great injuries, frequently produce fruit or seeds in large quantities; thus, fruit-trees that have been blown down, and have had part of their roots torn out of the ground, frequently bear more fruit than before they suffered injury, yet, it must be remembered that this fertility, so evidently designed for the continuation of the species, is commonly the last effort of the vital energy of the plant, and the exhaustion produced by the perfecting of the fruit, usually terminates in death. Now I believe that when orchards are ploughed, after having remained in sod many years, it frequently happens that some of the trees, and sometimes many of them, after being thus mutilated by the plough, produce large quantities of fruit and then dwindle away, leading the owners to the conclusion that the ploughing was productive of the best effects to the orchard, but that afterward, some cause, with which they were not acquainted, destroyed or injured it. The foregoing remarks apply principally to clay soils, or those in which the roots of trees penetrate downward with difficulty, and which are, in general, not the best situations for orchards; there are loose soils, of various kinds, in which, not only the roots of trees pass down freely, to the utmost limit of their natural growth, but, owing to the openness of soil and subsoil, the water that falls sinks, so as to leave the *grass-roots* without sufficient moisture, but furnishes it to the *roots of trees* during a long time in which it percolates slowly till it reaches the remotest limit they have attained. These are hungry and poor soils for farming, but valuable for growing timber; and, in some of the best varieties of these soils, orchards produce fine fruits in great abundance.

To close; I believe the only crop that should be taken from the orchard should be *the fruit*, and that it should not be cultivated with grain or grass, with a view to obtain crops, and consequently not subjected to the rotation system. The question then remains, Should the orchard be ploughed, or not? I believe trees may live to the natural extent of life, and produce well, under either mode of treatment. If the non-ploughing system is adopted, the grass that grows should not be mown, or pastured, but be permitted to fall upon the ground; and it would thus retain the moisture nearly in the same way that fallen leaves retain it in forests, which seems to be nature's method of storing and furnishing moisture gradually to the roots of trees. Hogs should be permitted to range through the orchard, at times, during the period that the unripe fruit falls, as they destroy injurious insects, and prevent their increase. If the method of ploughing every year is adopted, I would prefer to do it in the spring, as soon as the ground was in good order, and then sow with oats and clover-seed; when the oats were about half-grown, or rather less, pasture them close, with cattle, and then take out the cattle, permitting the hogs to range occasionally, as before. The clover will cover the ground so as to afford some protection from the summer's sun and winter's cold, and, when ploughed in the succeeding spring, will aid in enriching the ground; and this in some soils will (with the lime that should occasionally be spread upon the surface, after harvest) be sufficient to keep it fertile. In other soils it will be necessary to add manure periodically; but whether the ploughing or non-ploughing system shall be adopted, the fertility of the soil must be kept up by lime and manure, when necessary.

A. W. C.

January, 1841.



SOUTH-DOWN BUCK.

The above is a most correct portrait of a Buck of Ellman, of Glynd's famous stock.

The South-Down breed of sheep are adapted to many situations in the middle states of the Union, and more generally useful than perhaps any other variety. With a patience of occasional short keep, and an endurance of hard stocking, they are suited to dry climates and short herbage; an early maturity scarcely inferior to the new Leicester, with the flesh finely grained, and of peculiarly good flavour. The following is the description of this most valuable race of sheep, by Ellman, who has contributed more than any other man to its present improved state and high standing.

"The head small, and hornless, the face speckled, or grey, neither too long or too short; the lips thin, and the space between the nose and eyes, narrow; the under jaw, or chap, fine and thin; the ears and forehead wide; the eye full and clear, but not prominent; the eye-cap, or bone, not too projecting. The neck of medium length, thin towards the head, enlarging towards the shoulders, where it is broad and high, and straight in its whole course, above and below. The breast wide, deep, and projecting forward between the fore-legs; the shoulders on a level with the back, not too wide above, but bowing outward from the top to the breast; the ribs coming out horizontally from the spine, and extending far back, the last, projecting more than the others. The back flat, from the shoulders to the setting on of the tail; the loin broad and flat; the rump long and broad, the tail set on high, and nearly on a level with the spine; the hips wide, and the ribs generally presenting a barrel form; the legs neither too long or too short; the fore-legs straight, from the breast to the foot, and standing far apart, the hocks standing outward, and the twist, or junction of the thighs behind, particularly full; the bones firm; the legs of a speckled, or dark appearance; the wool on the body short, close, curled, fine, and free from kempy hairs."

It is only lately, however, that this breed has been brought to the degree of perfection which they now exhibit: they were formerly of a small size, long and thin in the neck, high on the shoulders, low behind, high on the loins, down on the rump, the tail set on very low, and perpendicular from the hip bones; sharp on the back, the ribs flat, narrow in the fore-quarters, but good on the leg, with big bones; the three grand faults being a rising back bone, a thin chine, and a low fore-end: and these are still to be found in many good flocks, few being quite free from them.

Hay and Fodder.

Great losses are annually sustained, in some parts of the United States, in making hay, and in others in curing corn-blades, commonly called fodder. Mine, in a course of many years, have, I think, amounted to a moiety of the crops; and most of the expedients I have resorted to for avoiding these losses, have been but partially beneficial. Grass loses much, both in quantity and substance, by an exposure to the sun, in curing, and fodder more, being thus exposed in small bundles, while both, particularly the last, suffer greatly by dews and rains; but this year I have made the most promising experiment for remedying these evils. A large meadow, in bottom land, of a grass called red-top, or herds'-grass, was cut in dry weather, and shocked in large shocks, quite green, but dry, that is, not wet with either dew or rain; and this was done in the following manner. Four sticks, of five feet long, and the size of a man's arm, were set up in a square of two feet wide at bottom, and meeting at top in a pyramidal form, where the shock was to stand: one of these sticks should, at least, be forked at top to keep them steady, while the hay is putting round them. A round log, about six feet long, and six inches diameter, was then laid on the ground, with one end reaching to the centre of the two feet square, between the sticks, and the other raised upon a fork about eighteen inches, for the purpose of enlarging the flue, presently mentioned, lest it should be closed by the pressure of the hay, and that the log may be more easily drawn out, when the shock is finished; and around and over the sticks the shock was made, its top reaching two or three feet above the top of the sticks; the purpose of the log being to make a flue for the admission of fresh air into the centre of the shock, and the expulsion of the air heated by the fermentation of the grass in curing: the flues being made to face the point from which the wind usually blows at the time of haymaking. If any flues happened to be closed by the pressure of the grass, they were easily opened by a smaller and pointed log; or when the largeness of a shock threatened this inconvenience, it was effectually prevented by inserting into the flue a short forked-stick, as soon as the log was removed, to hold up the hay: and as the logs are withdrawn as soon as the shocks are finished, two or three are sufficient for following a dozen mowers. The hay thus made is the best I ever saw, and the efficacy of the mode of curing it was strongly supported by the grass growing under the shocks having been uninjured, whereas, I never left shocks so long in one spot before, without its having been killed by the undissipated fermentation of the hay in curing. Corn-blades, or fodder, sustain an immense loss — corn, in dry weather, by two or three days' exposure to the sun and dews, and in wet they are nearly ruined. By way of experiment, I shocked them in the mode just explained, quite green, but dry, allowing them from four to eight hours' sun before they were shocked, and thus was made the best fodder I have seen or known; but the weather was favourable. The ends of the blades were laid outwards, and the shocks were bound at top by ropes made of the blades.

Arator.

To the Editor of the Farmers' Cabinet.

Peach Trees.

In reading the last number of the Cabinet, my attention was particularly taken with an article on Peach Trees, by B. H. He seems to think, if we want healthy trees we must cultivate from the stone. Several persons with whom I have conversed, and who have turned their attention to the raising of peach trees, think they are quite as liable to the disease when raised from stones, as when grafted. However, to my own experience. Last summer I paid a visit to a very fine farm of Samuel Trimble's, in Delaware county, and, among other things, he showed me some peach trees that he raised from the stones; they were then, I think, about a year old — all of them looked very yellow. We went to work and examined their roots; and, in all we did examine, we found numerous small, white worms, which had eaten quite into the tree. I have known a great many cases similar to the above, the cause of which could not have been "grafting." I have been told that lime is an essential thing for a healthy peach tree; but there are different opinions about that too. A friend of mine purchased a very poor farm in Chester county, on which there were, at the time, a number of healthy, fine-bearing peach trees. He was one of our "go-ahead" characters; and from the time when he gave the fields where the trees were, the first liming and ploughing, they all began to decline, and finally died. What was the occasion of their death I do not know; it might have been the ploughing, which disturbed and broke their roots; or perhaps the lime had a bad effect. The most effectual remedy for unhealthy trees that I have ever seen tried, is to lay bare the immediate roots around the trunk of the tree, and apply plenty of soap-suds.

A Subscriber and Constant Reader.

Chester County, 1st Mo., 20th, 1841.

To the Editor of the Farmers' Cabinet.

Best Mode of Slaking Lime.

Sir, — It is well known that lime, even after an exposure of a whole winter, has been found still unslaked; and an opinion exists that it requires the lapse, even of years, to render it in a fit state to be applied for the purposes of agriculture. This is now believed to be an error by those who have applied it in the only proper mode in which it ought to be used, namely, by spreading it on the surface of the land, and permitting it to be operated upon by the influences of the elements, and never by burying it with the plough. Indeed, there is with me no longer a question, that the proper mode of application is that which is pointed out by your very intelligent correspondent "Agricola," in your last number, page 194. By that interesting article, the "modus operandi" of lime seems to have received a final settlement, and all we have henceforth to do, is to "go forward," the next desideratum being to know the best mode of slaking it, as it comes from the kiln, so that it shall be done speedily and effectually.

On fallowed land this might be done by laying it in small hills, about a bushel in each, at proper intervals, and covering it with the surrounding mould, moderately thick, and clapped down with the back of the spade, so as to exclude the admission either of the air or rain, and prevent the escape of heat and evaporation, and in a very few days, if care be taken to keep the covering tight, it will be found completely slaked, when it might be spread, and harrowed in with the seed — not ploughed under. For the covering of grass land, lime might be slaked in a corner of the field, by first throwing off the turf at the spot where it is intended to form the heap, and pouring the water it is intended to use in slaking, into the hole, and then placing the lime, building the heap neatly, covering the whole with the sods thrown off, and others dug for the purpose, being careful to put no water on the top of the heap of lime, and seeing that the earth is replaced as often as is requisite, so as to keep the whole excluded from the air and rain. The lime which lies on the wet surface of the earth soon slakes, and the hot vapour which rises therefrom, immediately penetrates the whole heap above, and operates with the effect of boiling water, the heat still drawing more moisture from the earth as long as the process continues; and no part of the steam escaping, by reason of the covering of earth, the whole mass will be found to have been most completely slaked, in a surprisingly short space of time, and be ready for application. Let it be remembered, that to throw water on the top of lime, for the purpose of slaking it, or permitting the turf to lie open, thus exposing it to air and rain, is to retard the process, as the heat which is engendered flies off without penetrating at all the mass of unslaked lime below, while that portion of the lime which lies slaked on the top of the heap runs together so closely as to exclude the further passage of air and moisture; and thus a great portion of the lime of those heaps left exposed for a whole winter, have been found to be but very partially operated upon, at the time when they were required for use.

The mode of dropping the heaps at regular distances, and covering them with fine mould, has been adopted on land planted with potatoes with the greatest advantage; the lime, completely pulverized, and lying on the surface, after spreading, like so much *fine flour*, to be operated upon periodically by the rains during the whole summer, the water therefrom gently percolating through the pores of the earth, and falling on the roots in that state in which the lime can alone be taken up — as lime-water, or lime in solution — causing a growth and *sweetness* to the crop that is truly surprising, and adding greatly to its quantity and quality; the crop coming from the ground free from worms or canker, bright and clean; and, on cooking, will be found far more nutritious than those cultivated with the aid of dung alone; being more dry and mealy, with thinner skins.

I consider your correspondent's paper on this subject as invaluable, and myself under great obligation to him for the light which he has thrown around it. I believe it to be the truth, and that it will be found to hold good to the end of the chapter.

A Subscriber.

P. S. I must compliment you on the embellishments of the Cabinet—they far exceed, in faithfulness and justness of execution, those of any other agricultural periodical of the country, and would form, at the end of the year, a separate publication of interest and value to the agricultural community.

Saltpetre as a Manure.

One hundred weight of saltpetre per acre was sown by hand, on the 6th day of April, on a crop of growing wheat, and to prevent any error which might have arisen from a difference in soil on one side of the field from another, the saltpetre was carefully applied to every two alternate ridges; the two crops were reaped, and threshed separately, the result being an increase of six bushels of wheat, and upwards of two and a half hundred of straw per acre, obtained at an outlay of 26*s.* sterling only. The effect on clover and other lays is truly astonishing.—*Eng. Paper.*

Saturday Night.

How many associations, sweet and hallowed, crowd around that short sentence, "Saturday night!" It is indeed but the prelude to more pure, more holy, more heavenly associations, which the tired frame and thankful soul hails with new and renewed joy, at each succeeding return.

'Tis then the din of busy life ceases; — that cares and anxieties are forgotten;—that the worn-out frame seeks its needed repose, and the mind its relaxation from earth and its concerns — with joy looking to the coming day of rest, so wisely and beneficently set apart for man's peace and happiness by the great Creator.

The tired labourer seeks now his own neat cottage, to which he has been a stranger perhaps the past week, where a loving wife and smiling children meet him with smiles and caresses.

Here he realizes the bliss of hard-earned comforts; and, at this time, perhaps, more than any other, the happiness of domestic life and its attendant blessings.

Released from the distracting cares of the week, the professional man gladly beholds the return of "Saturday night," and as gladly seeks, in the clustering vines nourished by his parental care, the reality of those joys which are only his to know at these peculiar seasons and under these congenial circumstances—so faithfully and vividly evidenced by this periodical acme of enjoyment and repose.

The lone widow, too, who has toiled on day after day to support her little charge — how gratefully does she resign her cares at the return of "Saturday night," and thank her God for these kind resting-places in the way of life, by which she is encouraged from week to week to hold on her way!

But on whose ear does the sound of "Saturday night" strike more pleasantly than the devoted Christian? Here he looks up amid the blessings showered upon him, and thanks God with humble reverence for their continuance.

His waiting soul looks forward to that morn when the Great Redeemer burst death's portals, and completed man's redemption. His willing soul expands at the thought of waiting on God in the sanctuary on the coming day; and gladly forgets the narrow bounds of time and its concerns, save spiritual — that he may feast on joys ever new — ever beautiful — ever glorious — ever sufficient to satiate the joy-fraught soul that rightly seeks its aid.

It leads him to the Lamb of God for protection; and rationally points out the way to joys on high — an endless Sabbath — a perpetual rest for the vigilant, the watchful, the faithful. — *Selected.*

For the Farmers' Cabinet.

Lightning Rods.

I HAVE just read a very interesting article in the last number of the Cabinet upon electrical conductors, from "Observer," and would be very glad if he would give us some further information, as the subject is becoming one of increasing interest to our citizens generally, accompanied with a strong desire of arriving at some satisfactory conclusion, relative to the best plan of putting them up.

If I understand "Observer" correctly, he is of the opinion that a perfect conducting-rod would altogether *prevent* an explosive discharge, "by a gradual drainage from the cloud," and consequently, I should infer, that it would be possible to prevent the phenomenon of thunder altogether, by the erection of a multitude of conductors. This is new, and somewhat startling to many, but it certainly does not appear unreasonable. I would also infer that he considers "brightness," of *itself*, of no account, unless as a means of retaining the "sharpness" of the point. This also is new to many of us, who have supposed, from some cause, with how much reason is more difficult to tell, that brightness was very important; and therefore generally have procured platina points, as least liable to corrode. But if sharpness is *the* important end to be attained, we should know it, and the reason for the opinion, which, I doubt not, "Observer" is competent to give, and also whether the object is obtained by the point being sharp just at the end, however thick it may be a quarter or half inch from the extremity; or whether it should come evenly and gradually to the most delicate point. This inquiry is made because I have noticed many platina points set upon brass, some an inch long, tapering gradually to a point, and others not more than a quarter, or three-eighths of an inch, with a thick base, and, of course, coming abruptly to a point. Much must certainly depend upon suitable points, and more light is needed to this end.

At the close, "Observer" refers back to former volumes and numbers of the Cabinet, for additional information; but, unfortunately, many of us have become subscribers since that period, and therefore have no access to those valuable papers, so frequently referred to by correspondents upon this subject. I would therefore suggest whether it would not be highly advisable to *republish* those articles, as I believe there is a *much greater* interest manifested *now* upon the subject, than there *was* at the period of their original publication.

PUBLICOLA.

Chester County, January 23, 1841.

For the Farmers' Cabinet.

Observations on the Hessian Fly.

The investigation of the character and habits of the Hessian Fly having occupied some portion of my time, I was much pleased with the able and learned paper by Dr. Coates, on this insect, published in the last number of the Farmers' Cabinet.

The subject is one of the greatest importance, not only to the farmer individually, as affecting one of his principal products, but to the nation at large, by involving all the consequences attendant on a deficiency or abundance of a principal and essential article of commerce.

To acquire a perfect knowledge of this insect, and its habitudes with the growing wheat, will, I am fully persuaded, demand the closest and most scrutinizing attention. It was therefore with pleasure that I observed Miss Morris was labouring in this wide field of remark. Females are, by nature, endowed with more delicate nerves, and more acute perception, than commonly belong to our sex; entomology, therefore, is a very appropriate study for them. It is to be hoped that Miss Morris will pursue her inquiries, and that she may be able, ultimately, to give a true development of this obscure subject.

From my limited observation on this destructive little insect, I am far from being satisfied with its history and habits; and I write more with a view of obtaining knowledge, than from a hope of being able to impart much that shall be new or useful. But let us first inquire, What is the Hessian fly? Until this question is satisfactorily answered, all further investigation would be fruitless. To ascertain this fact I took, on the 20th of June 1836, fifty stalks of growing wheat, which were known to contain *pupæ* of some insect. These I placed in a large glass jar, containing, at the bottom, a sponge saturated with water, to supply moisture; the top was secured by a tin cover, nicely fitted, in which were several small perforations, to admit air, as well as to allow the exhalations to escape. This received my daily notice. About the middle of July, two weeks after the wheat had been cut in the field, I observed the first insect in the jar, and, in a few days thereafter, many others. They were restless, little black-winged insects, about one-tenth of an inch in length, much resembling winged ants, except that they were not furnished with those horny jaws, with which the latter will always bite, when pressed. They were, in short, Hessian flies, such as are described by entomologists. As the description from Say, given by Dr. Coates, page 204, Vol. 5, of the Cabinet, entirely corresponds with the insects I had in my jar, it is not necessary to repeat it here. During all the time of making this experiment I daily visited my wheat-field, and found that the change going on there, from the pupa state to the perfect insect, was cotemporaneous with that in the jar. The insect escapes from confinement, under the sheath of the leaf, by eating a hole through it, its strength being insufficient to burst it asunder. Such, then, is the Hessian fly, or *wheat-insect*; but there are many other interesting particulars to learn respecting it. *When* does it deposit its eggs? *Where?* What *remedy* can be proposed to counteract its operations on the growing crops of wheat? All these questions are more easily asked than answered.

In a paper to which I gave publicity in August 1836, the opinion was expressed that the eggs were *always* deposited in the fall; that the insect was too feeble to withstand the severity of winter, and could not, of course, deposit them in the spring. Subsequent observation has convinced me that I was in error. In potatoe and turnip patches, the crops of which are frequently gathered so late that wheat sown on them does not get above ground before spring, yet the crops of wheat, thus circumstanced, are frequently entirely destroyed by flies. The same observation may sometimes be applied to whole fields sowed very late. The eggs, then, are deposited *both spring and fall.*

Next, as to the *place.* The eggs, the larvæ, and the pupæ, are all, successively, found under the sheath of the leaf, near a joint of the stalk — more commonly the lower joint, in contact with the stalk. The plain inference then is, that the insect pierces the sheath of the leaf with its oviduct, and deposits the eggs between it and the stalk, in the very position in which they are found; for it is evident, that in at least two stages of its existence, the insect has not the power of locomotion. Yet, as I am frank to acknowledge that I have never detected the insect in the act of depositing its eggs, the theory of Miss Morris may be the correct one; but I rather incline to the opinion that the insect on which she has made her observations is of the genus *curculio.* It is well known that an insect of this kind, commonly called the *weevil*, sometimes deposits its egg in the grain, but *it remains there* until it comes out a perfect insect. The same is the case with the curculiones, which deposit their eggs in peas, and smooth-skinned stone-fruits, such as nectarines, plums, &c. But having got once safely esconced, they seem, by instinct, satisfied to remain and undergo the metamorphosis in the position in which they have, by the parent, been placed.

We have now arrived at the most difficult part of our subject — *the remedy.* From the

preceding observations, it is evident that neither early nor late sowing will secure the crop from the depredations of the fly. Burning the stubble, directly after harvest — lime or ashes strewed on the wheat early in May — rolling, to mash them, and forty other expedients have been recommended, but I have no confidence in any.

Until the wheat crop shall be entirely abandoned for two or three years, *throughout the whole country*, it will be a very uncertain one. I am, however, willing to hope on, and work on; perhaps in the course of events a remedy may be discovered. W. L. H.

Woodlawn, Harford Co., Maryland, Jan. 25, 1841.

To the Editor of the Farmers' Cabinet.

Culture of Beet, and Soiling Cattle.

Respected Friend, — I have found so much uncertainty in the drill barrow, in sowing the sugar-beet, that I purpose, this year, to plant by hand, after marking out the ground with a rake, say about six feet head, set with harrow-teeth, at the required distance of the plants, and drawn by a careful man, dropping one bur in a place, if previously sprouted, otherwise, two in a place, for safety. An accurate drill would be a great object, even at the extra expense for seed. I have used Robbins's corn-planter and turnip-drill, but the rough character of the bur, or if rolled in plaster their adhesion by dampness, has made the planting too uncertain.

Notwithstanding the European injunction, to keep the beet well cultivated throughout the period of its growth, I am now convinced, after several years' practice, that I have lost much by so doing; and have concluded to give them a thorough early culture, and then let them alone, except to pull weeds, if any should spring up afterward.

Knowing that a soil ploughed down *deep*, with plenty of partially-fermented manure, is easily kept clean, besides its tendency to friability from the decomposition going on below, I think of trying the beet as a fallow crop this year, with only one good, deep ploughing, thoroughly pulverized by harrows and cultivator, previous to planting — the thinning, one good hand hoeing, and the "hoetobaga" run through the rows once or twice before harvest, I think, will probably be sufficient culture; by harvest, if planted as I purpose—say about fifteen inches square —the tops will entirely cover and shade the ground, and thereafter keep down weeds and grass, and preserve moisture and friability.

The great advantage which the English agriculturists possess, and avail themselves of so profitably, is the adaptation of their climate to the turnip culture, and the mildness of their winters, which admit of keeping and feeding out roots through *that* season, with as little skill, or care, as we must exercise in late autumn or early spring. — This has inflamed the emulation of many of our agriculturists: but we have to contend with a precarious climate, for all the varieties of the turnip, and then with weather below zero, in winter, which sometimes freezes the roots between the magazine and the mouths of the animals fed on them. Hence the disappointment and discouragement which the root-culture is now labouring under.

But, I am of opinion, our climate admits of, and is favourable to, the culture of the beet, and that it will succeed, as our experience advances. They may be fed in the autumn and spring, as profitably as elsewhere, and preserved through the severest part of our winters, without difficulty, if buried in deep, narrow pits, *entirely below the influence of air, much less of frost.*

I must now tell thee I purpose trying the soiling of cattle this year. I think of feeding about five-and-twenty — supposing that number will absorb the exclusive attention of one man. I have now growing, clover, clover mixed with timothy, timothy pure, orchard-grass (cocks'-foot), and green grass. I propose, also, sowing a few acres of Dutton-corn, early, and at different times, broadcast, at the rate of say three bushels per acre — these I propose cutting to suit the appetites of my cattle — the corn to be sown on a heavy manuring, on ground designed for wheat, in the fall. I prefer trying the Dutton-corn on account of its tendency to throw up suckers — supposing it may make a good second cutting. Respectfully,

J. J.

Chester Co., 1st Month 11th, 1841.

Morello Cherry.

Editor of Frederick Herald.—Thinking it might be interesting to such of your readers, who may be disposed to try the pruning process recommended in the extract from Prince's Pomological Manual, published in the last Herald, for the preservation of the Morello cherry-tree, which is fast disappearing from amongst us, I would state, that six years ago I removed the limbs, upon which the black knotty excrescences appeared, from a small sprout of that variety of cherry, and have carefully continued to do so ever since: it has become a beautiful little tree, about 4 inches in diameter, has borne fruit three times, and appears to be doing well. My fondness for this variety of cherry induced me to make the experiment, which is still in progress—the knots having made their appearance every year. D. W. Neil.

Tam's Creek.

To the Editor of the Farmers' Cabinet.

Temporary Fencing.

Sir, — At our last week's meeting at the store,* the last number of the Cabinet was examined and approved. The article at page 205, entitled "Farmers' visits," is exactly calculated to interest practical men, and called forth much interesting conversation and remark; all had participated in the reflections there expressed, and could bear testimony to their correctness — indeed we were, ourselves, living witnesses of the justness of the sentiment, "iron sharpeneth iron," for, amongst us, it had received a peculiarly striking elucidation.

By many, the recommendation of sheep husbandry on a more extended scale, was highly appreciated, for several of the membersthad long contemplated the measure, but had been deterred by the trouble and difficulty of making those preparations which would be necessary before the attempt could be carried into execution, the most important of which seemed to be the peculiar kind of fencing required to keep a sheep from roaming abroad, all having often felt the truth of the observation, that "a sheep without food soon grows small enough to pass through a very small hole." A proper succession of crops, and a plentiful supply of roots and hay, for winter use, were quite within their power to provide; these labours had, therefore, no terrors for them, as they had already enjoyed the advantages arising from such a system, and were prepared to enter upon an extended scale of that species of cultivation at the first opening of the coming spring; having long since detected the fallacy of the doctrine, that "green crops pay no rent." The chief difficulty, then, is in the alterations necessary to be made in the disposition of their fields, and especially with regard to the state of their fences; and here your correspondent's plan of temporary fencing came to their aid. And when I pointed out the mode of separating the largest fields, in a very short space of time, by means of these, which I had often adopted with complete success, they were surprised that the simple plan had not been known and practised in this country many years ago. I described, as well as I was able, the system of *close folding*, practised mainly for the sake of the dung of the flock, as well as that of *open folding* — a more open and extended fold, by which large fields are temporarily subdivided, to prevent the flock from roaming over the whole, and treading a great portion of their pasture to waste, to and from whence they can be removed from time to time — urging upon their notice the almost inconceivable advantage the adoption of the latter course would be found to have, in a country where the common article used in permanent fencing — especially the worm-fence — is not only expensive, but vastly troublesome and wasteful, the *angles* serving as nurseries for weeds of every description, and constituting an object of disgust to every good manager. But as example is far more intelligible than precept, and much more easily followed out, I promised, the first leisure time I had, to do my best at making models of those temporary fences which had been described, and which in England are called "hurdles," for their inspection; and, as "nothing is impossible to a willing mind," I soon found that I could *make* leisure, either by night or day; so, as I indulge in the pleasure of keeping a small work-shop, at the back of the store, a model set of four hurdles were soon made, by which a close fold was formed; and having, since, added to the number, a large space can now be divided into squares, angles, or oblongs, with a facility that is surprising; showing how a large field can be subdivided into suitable compartments, according to the size of the flock, and from whence they can be exchanged in a few minutes of time, by means the most simple imaginable. All is, therefore, now ready for the inspection of the society, and, as a very full attendance of members is expected to-day — for great interest has been expressed by them on the subject — I may possibly have to add something to this communication, after the meeting, in which case I will forward it, in the hope that you may deem it worthy of notice in the pages of the Cabinet.

Wednesday morning.—After the meeting of yesterday had been called to order, the attention of the society was drawn to the model set of four hurdles, for the temporary division of large fields, on the adoption of the improved system of sheep husbandry on an extended scale. The members were struck with the simplicity and feasibility of the plan, and decided, by a unanimous vote, that the models should be forwarded to the Editor of the Farmers' Cabinet, soliciting that an engraving of them might be made, for publication in its pages, for the benefit of the agricultural community generally, satisfied that the mode of folding by these means will be attended with the most beneficial results to the country.

Several of our most intelligent farmers entertain the idea, that by means of these temporary fences, much of the internal stationary fencing of their lands might be dispensed with; it is, therefore, their intention immediately to construct some, with this view; and the consideration of the subject

* See page 186 of the Cabinet for December.

has made it appear probable that by adopting moveable hurdles, and the soiling system — which consists in taking the *crops* to the cattle, and not the *cattle* to the crops — almost all the unsightly worm, and other fences, might be removed, to the advantage of an improved husbandry in general, and neatness of appearance in particular; it being only necessary to construct the hurdles that are designed for fencing against horses and cattle, of stronger materials than for sheep.

Before the meeting broke up, it was Resolved, unanimously,

"That the Farmers' Cabinet is deserving our united and individual support and commendation. The style of its embellishments, its numerous original communications, and judiciously selected articles from other publications, rendering it a work of merit, and a valuable record of useful information, 'worthy the state and the country.'

"Joshua Sharrold, *Secretary.*"

Schuylkill County, January 28, 1841.

To the Editor of the Farmers' Cabinet.

Poudrette.

Sir, — I am desirous of knowing if any of your readers, in this part of the country, have used the manure denominated poudrette, in a way to be able to speak decidedly as to its relative merits, and the best mode of application.

In an advertisement put forth by the "New York Poudrette Company," which has fallen into my hands, the account is, of course, flattering; but it would be more satisfactory if some of our friends *on this side the water* could join their testimony, resulting from actual experience. That the article is powerful in its efficacy, it is but reasonable to conclude, but from observations that have fallen from some who profess to have used it, one would be led to conjecture that its effects would not be very lasting — on the principle perhaps that what is violent is seldom permanent; nor would it appear certain that the opinion, as to its suitableness for autumnal use, is as flattering as for spring dressing: to be sure, the introduction of the article to notice is but of recent date, and it might require a longer time, to enable one to form a just opinion of its relative value; yet, in the hands of a disinterested practical man, the matter might soon be decided. I take leave to use the term *disinterested*, seeing that the testimony in its favour, contained in the bill of advertisement, comes from persons whose names appear on the list of stockholders of the company. But I have no desire whatever to detract from its merits — far otherwise — for if it can be shown that the poudrette is only equal, in value, to the manure usually purchased, the difference in the cartage will be quite sufficient, in the judgment of every practical man, to decide all question in its favour. No one but a practical man could calculate the labour, and particularly the *value of the time* expended in carrying two hundred loads of manure per annum, a distance of three miles, to the farm! it is monstrous, even to think of; but he will soon *calculate* the difference between carrying twenty loads of manure, and thirty bushels of poudrette — which are accounted equal in fertilizing properties — and this will be decisive with him.

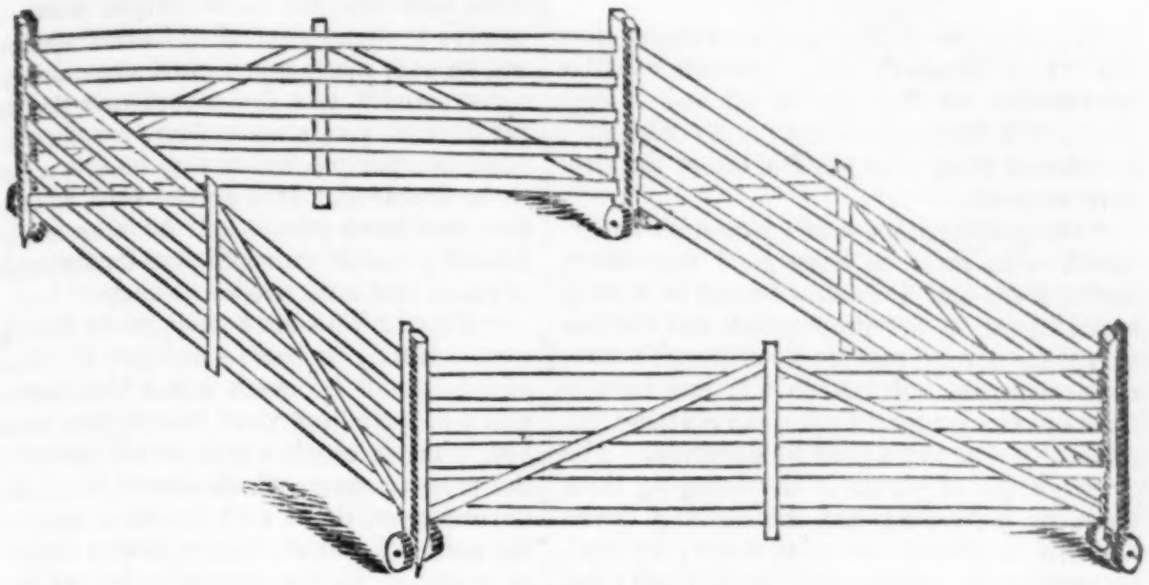
The use of this article has long been known in England by the name of "desiccated night soil," and large quantities have been sent to the West Indies for manuring their cane lands, for which it is understood to be very suitable; while in the fields around London, immense deposits are found in preparation, in all its different stages. I have, however, an idea that its use is more approved as a dressing for grass, or artificial green crops, than for grain, for which it is considered too strong, being apt to engender the rust. How far the purifying process of forming it into poudrette has sweetened its influences, is a question which I should be glad to see decided. On every part of the continent of Europe, *night soil* is highly valued for its fertilizing powers; but as the inhabitants are not such a beef-eating community as we are, it is of importance that every opportunity for accumulating manure should be embraced. But in China, we are told, it reaches its intrinsic value, being there considered like "old gold" — and hence, perhaps, it is, that "night men," in England, are named "Gold-finders." I remember once working a mine of this sort, which, having mixed with earth and exposed abroad until it was purified, I used as a top-dressing for wheat, in the spring: the effect was astonishingly great, the straw and ears being twice as large as those in any other part of the field; but it was completely destroyed by the rust, while the remainder of the crop was free from blight of every description, and proved a fine sample. And I was reminded of this experiment when reading the note at page 179 of the Cabinet for January, where it is said that much of the injury which is placed to the account of canker, mildew, &c., will, on investigation, prove to originate in the unwholesome supply or *impurity* of food: and this, I have no doubt, is the fact.

In the hope of receiving, through the pages of the Cabinet, the information which I am seeking on this important subject, I am,

Respectfully,

Jacob Smith.

Bucks County.



SHEEP-HUSBANDRY.

The above is a drawing of the model hurdles furnished by our friend Joshua Sharrold. (See page 231 of the present number.)

The hurdles are sixteen feet long, four feet high, wheels four inches broad, made either of wood or iron. By them a large field might be subdivided, in a very short space of time, and the stock changed to fresh pasture every few days, with great advantage to them, and economy of food; and thus much of the permanent fence on a farm might be dispensed with. But on farms where help is to be obtained, the wheels themselves might be dispensed with, two men being sufficient to remove and fix them in the ground, by means of a stout bar of iron, squared at the end, and pointed, with which to pitch holes at proper distances: in this case, however, the head of one hurdle is brought forward, so as to lap, or pass a little beyond that of another, and then the stake, which is driven into the ground on the *outside* of both, secures all by a collar, either of rope or twisted withe, passing round both hurdles and stake.

In preparing timber for making these hurdles, it is earnestly recommended to cut it during the full flow of the sap — say in May — strip it of its bark, and immediately saw it into the proper scantling, submitting it at once to the operation of heat, according to the plan proposed at p. 319 of the Fourth Volume of the Cabinet, as a way of seasoning it, and rendering it worm-proof: by these means it is confidently believed that a length of many years' service will be added to its durability. It is said that these hurdles have been in use in some part of Maryland, where they were found to answer all the ends proposed, and by which more than one half the pasture was saved; no objection being ever made against them, further than that to remove them was a labour and trouble that were found incompatible with the owner's habits and convenience.

An excellent writer in the Quarterly Journal of Agriculture, has some very sensible remarks on sheltering sheep, which are deserving serious regard: he says, We are too much disposed to manage our sheep, although the most profitable of our domestic animals, with less care than any other stock: were we to expend on them a portion of the attention which we bestow on our horses and cattle — shield them, in time of storms, and feed them with nutritious food — they would be more profitable to their owners, and most of the losses which fall so heavily on this kind of stock, in bad seasons, would be prevented. A slight shelter in an enclosed yard, sufficiently large to accommodate the breeding ewes, and another adjoining for the other members of the flock, to which they might be driven for shelter and safety every night, and during stormy, wet, and boisterous days, would add exceedingly to the comfort and well-being of the flock, and not less to the quality and quantity of the wool; the dung also being found very superior. Dried leaves make the best bedding for sheep. The shelter of these simply-constructed sheds will ward off many fatal diseases, to which the outlying sheep are constantly exposed, and, amongst the rest, that fatal scourge the rot, which is engendered by taking too great a quantity of wet and cold food into the stomach: here they could be fed with a little dry food and salt, in small mangers erected for the purpose, at great convenience and profit.

Horticulture.

We copy the following observations from the "Silk Grower;" they contain valuable information on the choice of, and raising seeds, with their cultivation; alike calculated to interest those who *garden*, either for pleasure or profit.

"*On propagation and cultivation in general.* — In order to have good vegetables, herbs, fruits and flowers, we must be careful and diligent in the propagation and cultivation of the several plants; for although nature does much, she will not do all; and he who trusts to chance for a crop, *deserves* none, but generally gets more than he deserves. The *propagation* of plants is the bringing them forth, or increasing and multiplying them; and this is effected in many ways; by seed, by suckers, by layers, and by cuttings; but almost all plants, from the radish to the oak, may be propagated by the means of seed, while there are many which cannot be propagated by any other means; and to this latter *mean*, I would confine my present observations. *Cultivation* must differ, in some respects, to suit itself to certain differences in the plants to be cultivated; but there are certain principles and rules which apply to the cultivation of all plants; and it is of these that I now propose to speak.

"*First;* It would be absurd to incur the expense and trouble of preparing land, without attending to the seed which we intend to sow. The sort, the genuineness, the soundness of this is a matter of great moment, if we wish to avoid mistake and loss; for what a mortification would it be to have late cabbages, instead of early ones! As to beans, peas, and many other seeds, these cannot easily be mistaken, but with the seeds of cabbages and cauliflowers, leeks and onions, and the turnips of different species, the eye is no guide at all. If, therefore, you do not save your own seed, you must be careful of whom you purchase; and even although the seller be a person of probity, he may himself be deceived; but all you can then do is, to take all the precaution in your power when you purchase, by being particularly full and clear in the order you give, to avoid the vexation of having one sort of seed for another — *winter*-cabbage, for instance, when you expect *summer* plants, and rape for turnips.

"*Second;* But, besides the *kind*, there is the *genuineness:* the seed which you sow may be *cabbage*, and it may be, as you wished it to be, the sugar-loaf variety; but it may have become degenerate, mixed, or crossed in generating; and thus you might be disappointed. True seed is of the first importance, for not only the time of the crop coming in, but the quantity and quality depends much upon it: you may have *plants*, but unless the seed be *true*, they will not be what you want. As to save the true seed of individual species is not an easy matter, you must sometimes purchase; and if you find a seedsman that does not deceive you, *stick to him;* not forgetting, however, the possibility that he also is liable to be deceived. It is a good plan, when you find you have pnrchased the true seed, to furnish yourself with sufficient for the number of years that such seed will keep.

"*Third;* The seed may be of the right sort — it may be *true* — and yet, if it be unsound, it will be much worse than useless; you will have lost your labour, your money, but, what is much worse, in all probability, the proper season, which cannot be recalled; nevertheless, there may be other causes for the seed not germinating — it may be chilled or scorched in the ground — be put in too deep, or too shallow, or may be eaten by insects or worms, or sown at an improper season — all these things must be well examined into; the unsoundness may arise from many causes — unripeness, blight, mouldiness, and age, are the most frequent; but I know of no seed, if fresh and sound, that will not sink in warm water, while that which is unripe, blighted, mildewed, or old, will all prove light, when tried by warm water, and will therefore swim. Put, then, a quantity of seed into a glass tumbler, with warm water, and watch the event. The seeds of cabbage, radish, and turnip, will, if good, go to the bottom at once; cucumber, melon, lettuce, endive, and some others, require some minutes, while the seeds of parsnip, carrot, and some of the winged seeds, require rubbing in the water before they will sink; count, therefore, a number, and try them in water, observing the proportion which sink to those which swim, and you will be able to form an estimate of its value. The seeds of beet and mangel-wurzel are contained in a shell; the best way to try their soundness is, to cut them through with a knife, and judge of their freshness by the whiteness of their flour; if that is dark-coloured, the seed is not good. But by far the safest way is, to try it by sowing; this might be done in a common flower-pot; sow in very rich mould, and keep the pot in a warm room, watering it pretty plentifully; count the seeds, when sown, and count the plants when they generate, and you can ascertain to a nicety; but this trial should be made ten days before the time when you intend to sow.

"*Fourth;* The saving of seed. Where this can be done, it should never be neglected, and there are many kinds that can be saved without the least difficulty. In the selection of the plants and roots from which to save seed, it is by no means necessary to choose

the largest; they should be perfectly formed, and sound; in the cabbage we prefer a small stem, well-formed head, and few spare leaves; in the turnip, well-formed bulb, small neck, slender stalk-leaves, and solid flesh; in the radish, if red or scarlet, high colour to the point, small neck, and few leaves, and those short; in the beets of different varieties, the handsomest roots, and the crowns of none of these above enumerated should be removed, for from them only do the seed-stalks arise; and, in choosing, those plants only which are earliest in their growth should be selected; they will be found to include the highest degree of perfection, in every respect. The land on which the plants are set for seed need not be highly manured; it must be stirred deep, kept clear from weeds, and well pulverized.

"*Fifth;* But the most effectual means must be taken to prevent a mixing of the sorts while in blossom: there can be no cross between a cabbage and a carrot, but there can be between a cabbage and a turnip, and between a cabbage and a cauliflower nothing is more common; as also between the different varieties of the cabbage, from the early York to the Savoy, while turnips will mix with radishes and ruta-baga, and all these with rape; and these results will all mix with cabbages and cauliflowers. And if, as in the case of Indian-corn, a mixture has taken place between plants at a great distance, what must be the consequence of saving the seeds of cucumbers, melons, pumpkins, and squashes, all growing on the same patch at the same time! It is easy, however, to save seeds from *any* of those, if they are planted a good distance from each other; and this could be accomplished by neighbours, one of whom might plant in the same bed the cabbage and beet for seed, another may plant the turnip and carrot, while a third may plant the cauliflower and onion, &c., without danger of intermixing. All seeds are best preserved in their pods until they are perfectly dry and hard, and when taken from thence, care must be observed to keep them from the least dampness. Many of these seeds will germinate freely for years,* and all, much longer than has been imagined, if they have been allowed to remain until they are perfectly ripe, and have been carefully kept. The cucumber, melon, and gourd tribe, are better for keeping any reasonable length of time, as, when old, they do not go so much to vine; while the carrot, which is *supposed* to lose its germinating powers after the first year, may be kept for many years, and it will then grow freely."

* Wheat, after being kept sixty-two years, in a dry closet, has been found to grow as freely as that of the last year's harvest; and it is said that some grains of wheat have been found in the ruins of Herculaneum, and others enclosed in a mummy, which grew freely, upon planting.

For the Farmers' Cabinet.

Cecidomyia.

Mr. Editor — Any how, Miss Morris's theory of the Hessian-fly cannot be correct. She tells us, if we wish to escape its ravages, it will be necessary to obtain seed-wheat from that part of the country where the fly is not known — naming some counties in this state. Now, it is admitted by all, that the Hessian-fly is not known in England, and yet the fine sample of golden-drop wheat which was brought from thence by Mr. J. C., and sown on his farm, under the most favourable circumstances, suffered equally with other crops, of both the autumn and spring varieties, grown at the same time, and on the same farm. Nay more, Mr. H. E., who the last autumn, sowed with the greatest care, and, in his judgment, at the most favourable season, an uncommonly fine sample of Odessa wheat, direct from Europe, where, let it be remembered, the fly is not known, finds it, at the present time, totally destroyed by the fly; while his main crop, immediately adjoining, is perfectly free and healthy, although the seed sown was from that part of the country which has regularly suffered from the fly, and no particular mode had been adopted for the purpose of cleansing it.

And how is it that those of us who have been guilty of planting "Hessian-flies," will be "borne harmless," if it shall please the Almighty to bless us with a genial season? even Miss Morris's *crops of flies* will come to nought, if the weather be kindly, maugre all her attempts at cultivation; nor will they trouble us again until the influences of a blighting year — an unpropitious atmosphere — shall again fall upon us; then again, however, we shall have them, never fear.

Pennsylvania. B. L.

For the Farmers' Cabinet.

The Berkshires outdone.

A hog of the *common* breed, *precisely* twenty months old, was slaughtered a few days ago by David Williams of East Hallowfield township, weighing six hundred and sixty-five pounds. No extra efforts had been made to make him reach that weight, for he had been kept and fed with a numerous lot of fine hogs, and had also been retained a boar until a few months since.

I this day sold one of his pigs, a boar, eight months old, to *Mordecai Lee* of Maiden-Creek, Berks-county, which required a box five feet long, and nearly three feet high, to transport him in.

Well done Chester! Can it be beaten with ordinary care and feeding *anywhere?*

J.

Chester County, January 24, 1841.

To the Editor of the Farmers' Cabinet.

Draining.

Sir, — A friend has put into my hands a pamphlet on Draining and Deep Ploughing, by Smith, of Deanston, the inventor of the subsoil plough. It is an interesting work, on subjects that have, hitherto, shared but little of our regard, but which are of the highest importance; for, if we wish to better our condition, we must adopt that mode of management by which England has been enabled to support a population, the increase of which has been in the proportion of one-third, in a very short space of time, and without which this never could have been accomplished.

The work naturally divides itself into two parts, first, draining; second, subsoil ploughing; which, although closely connected, in beneficial results, are not, of necessity, dependent on each other, as either the one or the other may be adopted separately, with decided advantage. But, it must be confessed, there are, to appearance, serious difficulties to the introduction of either at present, to the extent there proposed, if it be only on the score of expense, for few persons would be induced to incur an outlay of forty-five dollars per acre for draining, and six dollars an acre for one subsoil ploughing, in contemplation of future remuneration; such management must, for a season at least, be confined to men of capital and ample resources.

Smith's system of draining is novel; and it is introduced to notice by disparaging that of Elkington, which has, for many years past, been considered as the most perfect that could be devised; and the author of the new system admits that many intelligent men still advocate and practise that mode, which is, to carry the drains *across* the declivity, cutting off the springs before they rise to the surface, by which, when they are judiciously laid out, one deep cut has been known to supersede the necessity of dozens when conducted according to the old mode — in fact, one drain has been known to draw off the water from many acres of wet land, a mile or more distant. But by the new mode adopted by Mr. Smith, every field upon the farm, whether wet or dry, or whatever be its subsoil, be it never so porous, is drained at regular intervals, from a distance of ten feet only between the cuts, up to forty; by two feet and a half to three feet in depth, all carried *down the declivity*, instead of across it; which, to any one accustomed to the practice of draining, will appear novel indeed! He says, "it has been pretty generally believed and argued, that drains laid off, in this manner, *on a steep*, will not be so effectual in catching water; but this notion can be shown to be erroneous. Drains drawn *across a steep*, cut the strata, or layers of subsoil, transversely; and as the stratification generally lies in sheets, at an angle to the surface, the water, passing in or between the strata, immediately below the bottom of one drain, nearly comes to the surface before reaching the next lower drain,* but as water seeks the lowest level, in all directions, if the strata be cut longitudinally, by a drain directed *down* the steep, the bottom of which cuts each stratum to the same distance from the surface, the water will flow into the drain at the intersecting point of each sheet, or layer, on a level with the bottom of the drain, leaving a uniform depth of dry soil."

Now, it is reasonable to ask, what is to prevent the water which rises to the surface by these "strata which lie in sheets, at an angle to the surface," at the top of a declivity *between* these drains, from flowing down to the bottom, if there be not a cross drain to receive and conduct it away? To be sure, it might be argued, that if drains are but ten feet apart, the distance for the water to flow to find them will be but five feet, at any given point; but as water always seeks the lowest level, which is at the bottom of the declivity, it is natural to expect that it will make its way thither directly down the hill, without turning either to the right or left; and this has often been witnessed where drains have been injudiciously placed; indeed, it *is* novel to propose to drain a spouty hill, by carrying drains *down* the declivity, instead of across it. And as to the fear of "the water passing in or between the strata, immediately below the bottom of one drain, nearly coming to the surface before reaching the next lower drain," any regular drainer knows, upon inspection and examination, the proper distance at which to lay off his drains across the hill, to prevent all that.

It is *novel* to find it proposed to drain every acre of the farm, without regard to soil, situation, or state of moisture; and many will consider it a waste of labour, and expense, and by no means necessary. It is, indeed, strange to find any one advocating the drainage of "beds of open sand and gravel" — but so says the book. — "In the natural circumstances of the soil on the surface of the earth, the drainage is extremely various, from that of the light, dry loam, incumbent on deep beds of open sand or gravel, to that of the thin, sterile crust of soil resting on massive beds of impervious till: in the former there is no water springing to the soil from below, and whatever falls upon the surface in the

* But this will not happen if the drains are conducted, as he proposes, at the distance of ten feet only apart.

shape of rain, is instantly absorbed, and passes through the sand, or gravel, to some outlet at a lower level" (then why, in the name of common sense, drain?); "in the latter case, on the contrary, water, whether springing from below or falling upon the surface as rain, must either run slowly off over the surface, however great the distance, or, in the event of a horizontal surface, must remain stagnant until evaporated by the sun, or absorbed by the atmosphere" (then, in the name of common sense, drain); "on such a subsoil, a sufficient depth of active soil can never be long maintained, for grain; if trenched and enriched by lime and dung, it will bear but scanty crops. Some soils, again, are incumbent on subsoils *partially* pervious to water — such, by judicious management, produce sometimes good crops, in favourable seasons, but when much rain prevails, they are neither large or of good quality; these are unfit for wheat, as the alternate frosts and thaws of winter, acting upon the water in the soil, are sure to throw out the plants. But on those soils incumbent on open rock, especially on whin, or green-stone, which is very open, from its many fissures, the land is *uniformly fertile*" (then why drain?). "But," he observes, "the drains should be run parallel to each other, and at regular distances, and should be carried throughout the whole field, without reference to the wet or dry appearance of portions of the field; as uniform and complete dryness is the object;" directing that the drains, in a stiff, strong till, be run within ten or fifteen feet of each other; if in a lighter, and more porous subsoil, from eighteen to twenty-four feet will be near enough, but in *very open soils*, forty feet may be sufficient. He says; "a very important advantage of having the drain *down the steep*, is the prevention of any lodgement of mud or sand, the current having force, from the declivity, to carry them along to the main drain;" but, he afterwards adds; "indeed, the water passing into the drains by filtration, being perfectly pure, has no sediment to deposit, for even during the heaviest rains, the water passing from a properly made drain, has merely a milky tinge." Now how is this to be understood? If the water is perfectly pure, it will have no tinge at all, and whether, at any time, *milky* or *inky*, must depend on the strata through which it has passed; but whatever the colour, if it has any tinge, there must be sediment. In forming underdrains, it has ever been the custom to lead them by as *easy a descent* as would be prudent, to prevent the possibility of washing, lest they might thus become choked, and blow up; and even Mr. Smith himself seems to admit the danger of this, for he says, "it is quite necessary to fill the drains, which are carried *down the slope*, with stones of a small size, or with *danders* or *gravel*, to prevent the current of water from cutting or running the bottoms of the drains," and by which they would, of course, become choked, and blow up.

Any how, the subject is one of great importance, and ought to be examined into, with the view to establish some system for adoption, whenever necessary; for there is no improvement so great, profitable, or lasting, as draining, when properly executed.

M. C.

Wilmington, Delaware.

Mr. Smith has, within fifteen years, formed on his land under-drains to the extent of *one hundred miles* in length!

For the Farmers' Cabinet.

Observer — No. 24.

"WHO SHALL DECIDE, WHEN DOCTORS DISAGREE?"

I PERCEIVE, by the last Cabinet, that a *Miss Morris* has once more discovered that the wheat-fly (*cecidomya destructor*) deposits its eggs in the grain previous to its being harvested — that when the grains vegetate, and not till then, the eggs are hatched — that the larvæ proceed thence to occupy their usual position in the sheaths of the blades — that they remain in the larva state and feed upon the plant until the beginning of June, when they pass to the chrysalis, or pupa, or flaxseed state — and that soon after they emerge in the fly, and deposit their eggs in the ripening ears.

I should not have noticed this discovery — merely as such — for it has been made perhaps forty-nine times before — but when I consider that it is opposed by the every-day experience of thousands of observant farmers, and that it comes into the world endorsed by the imposing names of *Thomas Nuttal, Isaac Lea, and Benjamin H. Coates, M. D., with the American Philosophical Society for its godfather*, I may confess my fears for the consequences.

Doctor Coates does not pretend to a personal acquaintance with the *cecidomyia destructor*, nor does he happen to know that any person, except *Thomas Say* and *Miss Morris*, has ever observed its habits. Hence, by taking what they have communicated as the sum total of our knowledge of that mischievous insect, he has been led inadvertently into error.

The Doctor observes, that "Miss Morris's observations and inferences agree very well with what we know of many insects." What insects? Why, "the animal that destroys the luxuriant shoots of the parsley-leaved elder, passes its larva-existence in the pith

of the plant." But, unfortunately, according to *Miss Morris*, the *C. destructor* does not pass its larva-existence in the interior of the stem, but merely travels through it in its progress from the grain to its residence in the sheath of the blade. To make it "agree very well" with *Miss Morris's* discovered habits of the wheat-fly, *Doctor Coates* should have shown that this "splendid beetle" deposits its eggs in the seeds of the elder — that they are planted with them — spring into life together, and that the young insect "grows with the growth, and strengthens with the strength" of the plant. This he has not done, and perhaps will not do, as these "luxuriant shoots" spring from *old roots, and not from seeds.*

After quoting from *Say's* account, that "the perfect fly appears early in June, lives but a short time, deposits its eggs, and dies— the insects from these eggs complete the history by preparing for the winter brood" — the Doctor remarks, that "the words would seem to imply that there are *two* broods — one for summer, and one for winter. If 'preparing for the winter brood' means laying the eggs which are to produce them, why are not the flies seen in the end of October, before which time the sheaths of the leaves, and the straw itself of the winter-wheat, do not exist, and at which period no fly, of any description, is to be met with in the fields?"

These assumptions of *Doctor Coates*, if correct, certainly place *Say* in a dilemma; but they are no less unfortunate for the discovery of his friend *Miss Morris* — for if "the sheaths of the leaves" do not exist at the end of October, it is as impossible for the larvæ to inhabit them on the one supposition, as the other. Perhaps he may say that the worm does not leave its nidus in the grain till after the period spoken of; for he says, "the young worm is then below the surface of the earth, in a substance that is not frozen, and which supplies him with food." But I will appeal to every observant farmer to say, whether the "sheaths" and the "straw" are not sufficiently matured for the purposes of the fly, before the end of October. Whether they have not often seen the larvæ in the sheaths before that period. — Yes — ten thousand eye-witnesses can testify to the truth of this — and that their wheat-crops have been literally eaten up before the end of October.

But, "why are not the flies seen in the end of October?" By omitting the first word, this question will answer itself: "Are *not* the flies seen in the end of October?"

According to *Miss Morris*, and her *endorsers*, it appears that the larvæ of the *C. destructor* "enter the pupa state about the beginning of June." This agrees very well with what *Say* tells us of the summer breed, and is probably correct. But when early-sown wheat becomes infected with the fly, the larvæ pass into the pupa state in autumn, and, I believe, very often come out in flies sufficiently early to deposit other eggs before winter.

The following transcript is from my fifth number of the Farmers' Cabinet, Vol. 1, p. 287, and was written about the time *Miss Morris* commenced her discoveries.

"All the observations which I have been able to make, have confirmed me in the opinion that they (the *cecidomyia destructor*) deposit their eggs at *various seasons of the year*, subject to be influenced by circumstances — and that the duration of the several stages of their existence depends upon *season and temperature.* In warm weather a few months, or even weeks, may be sufficient to produce the fly from the egg — but the progress of its metamorphoses will be retarded, or entirely arrested, by cold weather. Last spring (1836) the flies* were very numerous in my wheat field, when I sowed clover-seed, in the beginning of the fourth month. They could be seen to rise at almost every cast of seed, and would fly forward, and settle down again in the same way as grasshoppers are observed to do. These had probably come out of the winter pupa in the opening spring, and were about to deposit the eggs, which, after destroying the crop, produced other flies, in the sixth month. This would allow a period of about two months for the completion of these several changes.

"When the eggs are laid in early autumn, the insects will become pupæ before winter, ready to emerge, early in the spring, and prepared for new devastations, in the way which I have just mentioned.

"Observations are still wanting to determine whether the larvæ of eggs laid later in the fall can endure the winter in that state — or whether the egg can remain, and hatch in the spring. I think it probable that neither the egg nor the larva can survive the frosts of winter, unless protected from intense cold by a mantle of snow, as was the case in the winter of 1835–6. The autumnal prospect exceeded any thing we had for a long time witnessed — the dreadful reverse, at the ensuing harvest, will be long remembered. The fall was favourable to the growth of wheat, but it was also favourable to the propagation of its greatest enemy — the fly. Its ravages were scarcely perceptible in the fall, yet it was undoubtedly there. Whether

* To satisfy myself of their identity, I caught several of them, and submitted them to a microscopical examination and comparison with Say's description, and with specimens of the preceding summer.

in the several states of egg, larva, and pupa, or only of the latter, I am not prepared to say. The winter was peculiar. Snow fell in abundance, before severe frost set in, so that during a winter of intense cold the ground was scarcely frozen. The fly was so far preserved, from the circumstances of the season, as to become numerous to excess in the spring crop. Many pupæ undoubtedly perish when exposed to the rigours of a severe winter, which would be protected under the snow; and this may account sufficiently for their abundance.

"Sometimes, when very few insects can be found in the fall wheat, they become quite numerous in the spring. I have never seen the larvæ in early spring — only pupæ — yet, later in the season larvæ become very common. The eggs of these were probably deposited by flies which proceeded from the winter pupæ. The spring larvæ pass through the pupa state between the first and middle of the sixth month."

Some intelligent and observing farmers think that there is a midsummer brood, inhabiting some of the grasses and later grains between the June crop and the time of sowing wheat; but multiplied observations have only confirmed me in the opinion expressed four years ago, that *the eggs are deposited at various seasons of the year, according to circumstances, and that the duration of their several stages of existence depends upon season and temperature.* These views accord well with the want of uniformity, so often observed in the habits of the insect.

Doctor Coates speaks of "the absurdity of planting Hessian-flies for the benefit of the next year's crop." It is indeed an absurdity, which is only equalled by that of the man who planted a piece of beef, for the purpose of raising a crop of oxen from it. But wherein does the absurdity consist — in the *idea*, or in the *practice?* — in the farmer sowing his wheat, or in Doctor Coates and Miss Morris believing that the eggs of the *C. destructor* are sown with it — that they vegetate with it — and that they grow up to the perfect state together? There is no *absurdity* in planting peas — *bugs and all* — but it might be absurd to believe that those bugs grew, like the peas, and produced another crop — that unless the bugs were planted, the peas would not produce other bugs, and thus perpetuate their race.

My friend B. O. had a piece of ground prepared and sown early in the ninth month last, with Mediterranean wheat; but his seed ran out, leaving a narrow strip unfinished, which he sowed, at the same time, with the common red kind. For a time they both flourished well; but before "the end of October," he told me that the Mediterranean wheat looked very fine, and covered the ground completely, while the red wheat had almost entirely disappeared—was eaten up—leaving the ground bare.

New-Garden, 1st Month, 25th, 1841.

To the Editor of the Farmers' Cabinet.

Cecidomyia, or Hessian-Fly.

Sir, — I informed you at p. 139 of the Cabinet for November, that I had turned down a crop of wheat, and re-sowed the land, because I found that it had already been attacked by the fly. I can now say, I am well satisfied with the step which I then took; for, when the snow left it, a few weeks ago, it had a good appearance.

There are now three theories before the public respecting the cecidomyia, or Hessian-fly: "Vir" says they are the *effect* of disease in the *plant* — Tycho Brahe considers them the *cause* — and Miss Morris would make it appear that the farmers are guilty of sowing a crop of flies with their wheat! — the seat of the disease being in the grain itself. — I wonder which is correct — and if there be yet more theories to be brought to light? For myself, I doubt whether Miss Morris's theory will find many converts, for some time to come; and the idea which Dr. Coates broaches, about planting Hessian-flies for the benefit of the next year's crop, is as new to me as the proposal of "Vir" to *retard* the growth of the wheat in the autumn, to harden it. But by the Dr.'s article it would appear that we have all been mistaking an insect which *destroys* the Hessian-fly, for the fly itself! But if the thousands, and ten thousands of nits, eggs, larvæ, and pupæ, which I last fall turned down with the plough, were not the Hessian-fly, but the *ceraphron*, then have I been, up to the present moment, most wonderfully mistaken! I have often taken up a bunch of wheat full of these nits, or eggs, and, upon their emerging, have found them to be the insect described by Dr. Coates, which, "when its wings are pinched off, bears a great resemblance to a minute black ant;" and this I have always believed to be the insect which causes all the mischief, be it ceraphron or cecidomyia — Hessian-fly or ichneumon?! Please, Mr. Editor, give us all the light you can upon the subject, and oblige your subscriber,

J. G.

As rust and decay rapidly consume the machine that is not kept in use, so disease and sickness accumulate on the frame of indolence, until existence becomes a burden, and the grave a bed of rest.

To the Editor of the Farmers' Cabinet.

Quantity of Seed per Acre.

The last number of your most excellent and useful paper contained a communication from James Gowen, Esq., of Mount Airy, regarding the culture and product of his grain crops in 1839–40, but without mentioning the *quantity of seed sown* to the acre. Now as there is much controversy in our neighbourhood respecting this latter, if you will obtain from that gentleman this information, and report in the next number of the "Cabinet," you will confer a favour on

Yours, most respectfully,

Tobias John Durney.

Jacquehurst, Montgomery Township, Jan. 22, 1841.

Mr. Gowen informs, the quantity of wheat sown per acre was two bushels; rye, two bushels; and barley, two and a half bushels.

Notice.

We are happy to announce that Mr. James Ronaldson has returned from Europe, bringing with him specimens of seeds, and agricultural implements, that will be valuable additions to the varieties already possessed by us. We have been favoured with samples of several of the former, and can recommend them to the notice of the agricultural community, as being the finest of their kinds. They are for sale at his house, No. 200 south Ninth St., in small quantities, his object being to introduce, from his own country, long famous for the best varieties of the oat, barley, and other grains and roots, those only that would ensure for it in this country, the high character that it has sustained throughout Europe. Mr. R. has published a small pamphlet, enumerating and describing the different articles which he has brought, and received by ships that have arrived since his return, from whence we select the following list:

Smith's Deanston Subsoil Plough,
A Portable Grain Mill,
Weed-Hooks — Iron Chains,
A Bull Ring — Safety Lamp,
} for inspection.

Oxford White Prize Wheat; Golden-Drop, and Pomeranian Red Do.; Scotch, and Chevalier Barley; Hopetoun Oats; Perennial Rye-grass; Scotch Rye-grass; Great Northern Rye; Don, Calico, and Forty-fold Potatoes; French White Silesian Beet, together with a variety of small seeds, both field and garden, which he will feel pleasure in distributing, for cultivation, amongst his friends, in small quantities. Applications, post paid, may be addressed to James Ronaldson, 200 South Ninth St., Philadelphia.

Our next number will be embellished with a Portrait of the Mammoth Ox "PENNSYLVANIA," taken from the life, by Woodside, expressly and exclusively for our work. This magnificent animal was slaughtered at Philadelphia, on the 2d of February, and the Farmers' Cabinet for March will contain his portrait, together with many incidents relating to him — his pedigree; by whom bred and fed; dimensions and weight, while living, and when dead; and other matters, which cannot but prove highly interesting, as well to them who had the opportunity of viewing him whilst living, as to those who were debarred from sharing in that "feast of fat things." Such a noble animal ought not to be suffered to pass away without record, and the pencil of the first animal painter of the day is now engaged in rendering him the honour that was most unquestionably his due, as the finest specimen of judicious *breed and feed*, that has ever been exhibited in the United States.

To Correspondents.

Some of our correspondents are laying us under heavy charges in the shape of Postage. — "We pray you mercy."

"A. C." is entitled to our best thanks, but we cannot see exactly as he does; when that time arrives, however, we shall no doubt pursue the line which he proposes for our adoption.

The quantity of rain and melted snow which fell during the

1st month, (January,) 1841, was....7.837 inches.

John Conrad.

Pennsylvania Hospital, 2d mo. 1, 1841.

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